State Policies on Incentive Schemes in Primary Schools and their Contribution to Girls' Participation

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FOREWORD

The major hurdle in achieving the Universalisation of Elementary Education is the low participation of girls at the primary stage. This problem has engaged the attention of planners since the Independence. In an attempt to resolve it, the states have introduced a variety of incentives to motivate parents by providing them some financial assistance for reducing their burden in educating their wards. This problem still persists in differing magnitude across the states/UTs because of rampant poverty and an indifferent attitude of the parents. A detailed review of strategies for implementation of these incentives in the states is necessary in this background, in order to improve their efficacy. The present study is an endeavour in this direction and attains special significance when control and administration of elementary education is being transferred to local bodies and gram panchayats.

This study attempted to review the policies on incentives and their implementing strategies in all the states and UTs In addition, it tried to identify the factors operating at state level, which contribute to the girls' participation at primary stage of education Besides, the study attempted to cover various related issues at school level and sought the opinion of the parents and the village heads about the implementation of incentive schemes in the states of Tamil Nadu and Uttar Pradesh.

This report is a fruitful culmination of a joint venture of the UNESCO and the NCERT right from the designing stage to drafting of the report. We are grateful to Prof. Moegiadi, Director and UNESCO representative to India, and to Dr. Huma Masood, Programme Officer, UNESCO, who took a very keen interest in this endeavour

The study was conceived and executed under the guidance of my predecessor Prof A K. Sharma, the then Director, NCERT. I express my gratitude for facilitating successful implementation of the study. I also wish to acknowledge the contribution of the members of the Advisory Committee for resolving various issues cropped up at different stages during its execution. Prof R.R.Saxena and his team, especially Dr. J.K Gupta, and Shri Pushpendra Kumar, deserve deep appreciation for efficient execution of this assignment within the stipulated time.

It is hoped that the report will be useful to policy makers and educational administrators in streamlining the execution of the incentive schemes for enhancing the participation of not only girls in education but also of other deprived sections of society

J S .RAJPUT
Director
National Council of Educational
Research and Training

New Delhi
February 2000

PREFACE

It is a pleasure and honour to write a preface for the study carried out by a team of eminent academicians from one of the premier institutions of India, the National Council of Educational Research and Training (NCERT) on the "State Policies on Incentive Schemes in Primary Schools and their Contribution to Girls' Participation"

When the world leaders gathered in Jomtien, Thailand in 1990 to discuss how to accelerate the process of achieving Education for All, it was recognized that in most developing countries girls and women were lagging behind males in their participation in basic education programmes. The gender gap in both school enrolment of girls and women's literacy rates are particularly alarming in rural areas. Education for All as pledged in Jomtien in 1990, cannot be achieved without eliminating the gender gap in basic education

The four South Asian countries in this region namely, Bangladesh, India, Nepal and Pakistan are counting the largest number of out-of-school girls and illiterate women. If a breakthrough in providing basic education to girls and women can be made in these countries, not only these countries would have made a major leap forward in their development, but also the world situation itself would look much brighter and better.

Government of India has introduced various schemes in one way or the other to encourage girls, the disadvantaged and poor children to come to school. The functioning and impact of these various schemes vary. This study "State Policies on Incentive Schemes in Primary Schools and their Contribution to Girls' Participation", has examined and analyzed objectively and in great depth various aspects and pertinent issues of incentive schemes in order to improve various future policy and programme choices for effective promotion of basic education for girls. The study goes a long way in analyzing in detail various schemes. The study consists of field level interview in two states of India (Uttar Pradesh and Tamil Nadu), with parents, teachers and staff involved in the management of the schemes. Information and data is analyzed to assess the nature and extent of impact of specific schemes on participation of girls in basic education programme There is a comprehensive analysis of policies and measures and recommendation for improvement and/or change of current practices.

There is much needed research work and will be of value to education policy planners, managers, NGOs, development agencies, researchers and specialists. The findings and recommendations will be reviewed and examined through discussions at the national level in close cooperation with UNESCO, Government of India and potential Donor Agencies

I take this opportunity to thank Prof. A.K.Sharma, (Ex-Director, NCERT) and Prof. J S.Rajput, Director, NCERT in particular the research team lead by Prof. R.R.Saxena who conducted this excellent research

PROF. MOEGIADI
Director
UNESCO

ACKNOWLEDGEMENT

Every State government and Union Territory administration has introduced some direct incentives for enhancing enrolment at the elementary stage so as to fulfil the national commitment of Universalisation of Elementary Education (UEE). This goal, however, is still eluding, mainly because of low participation of girls at primary stage. It is, therefore, pertinent to review the efficacy of the incentives viz., Mid-day Meal, Textbooks/Note-books, Uniform and Attendance Scholarship for Girls in the context of participation of girls. The present study was undertaken at the behest of UNESCO with this purpose in view. We are highly grateful to the UNESCO for entrusting this important study to the NCERT Gratitude is due, in particular, to Prof. Moegiadi, Director and UNESCO representative in India and to Dr. Huma Masood, Programme Officer, UNESCO

This study was planned and executed under the guidance of Prof. A.K. Sharma, the then Director of NCERT, while Prof J.S. Rajput, Director, NCERT, guided the team at the final stages. We express our gratitude to them for their guidance. We are also indebted to the members of the Advisory Committee who made valuable contribution in the planning of the study.

The study was conducted in two phases Phase I of the study, covered policies and practices followed in implementing the incentive schemes in the 32 states and Union Territories Its Phase II, basically an in-depth field study, covered a sample of rural primary schools of the states of Tamil Nadu and Uttar Pradesh. During Phase I, data were collected from all the 32 states and Union Territories, a task which could be completed with the support of Principals of Regional Institutes of Education and through concerted efforts of all the Field Advisers of NCERT. Phase II of the study involved intensive training of the enumerators and supervision of fieldwork. These were supervised by Shri R. Palaniswamy, Joint Director of Elementary Education, government of Tamil Nadu and Shri Mahadev Bhatt, Deputy Director(Primary), government of Uttar Pradesh. The Field Advisers of both the states, Dr. P. Veerappan and Dr. (Km.) Lata Pande, helped in planning and execution in their respective states. Their contribution in maintaining the quality of data collection is highly commendable

At the headquarters Shri Surender Kumar worked on the project right from the planning stage. In addition, Shri O P. Arora, Mohd Arif Sadiq, Vishva Bandhu and K Murugan shouldered the major responsibility in data preparation, data scrutiny and data analysis. They have made all out efforts to accomplish the complex task within such a short time. We would be failing in our duty if did not mention the names of Smt. Nirmal Mehta and Shri Ram Prakash who extended secretarial and administrative support to the study. Colleagues from International Relation Division and Accounts Branch provided help in administrative matters and accounts respectively Contribution of these colleagues is appreciated and acknowledged thankfully.

Finally, we welcome comments from our readers on the methodology and findings of the study

Authors

ABBREVIATIONS AND ACRONYMS

AEEO	Assistant Elementary Education Officer
AIES	All India Educational Survey
ANP	Applied Nutrition Programme
BDO	Block Development Officer
CARE	Co-operative for American Relief Everywhere
CBSE	Central Board of Secondary Education
CD BLOCK	Community Development Block
CRS	Catholic Relief Service
CWS	Church World Service
DC	District Commissioner/Collector, Deputy Collector/Commissioner
DEEO	District Elementary Education Officer
DEO	District Education Officer
DIET	District Institute of Education and Training
DPEP	District Primary Education Programme
DPSC	District Primary School Council
DRDA	Department of Rural Development and Agriculture
DWACRA	Development of Woman and Children in Rural Areas
EAS	Employment Assurance Scheme
EBC	Economically Backward Class
ENP	Expanded Nutrition Programme
FAO	Food and Agriculture Organisation
FCI	Food Corporation of India
FPS	Fair Price Shop

GER	Gross Enrolment Ratio
ICDS	Integrated Child Development Scheme
IDA	International Development Agency
JRY	Jawahar Rozgar Yojna
LFL	Low Female Literacy
MDM	Mid-Day Meal
MoE	Ministry of Education
MST	Ministry of Surface Transport
MHRD	Ministry of Human Resource Development
MIS	Management Information System
MLL	Minimum Levels of Learning
NA	Not Available
NCERT	National Council of Educational Research and Training
NGO	Non-Governmental Organisation
NPE	National Policy on Education
NPNSPE	National Programme for Nutrition Support for Primary Education
NSSO	National Sample Survey Organisation
OBC	Other Backward Castes
PA	Per Annum
PC	Planning Commission
PDS	Public Distribution System
POA	Programme of Action
PROBE	Public Report on Basic Education in India
PTA	Parent Teacher Association

RBC	Red Blood Corpuscles
RGI	Registrar General of India
RPDS	Revamped Public Distribution System
Rs./Re	Rupees/Rupee
SC	Scheduled Caste
SCERT	State Council of Educational Research and Training
SDO	Sub-Divisional Officer
SIEMAT	State Institute of Educational Management and Training
SLP	School Lunch Programme
SRSWOR	Simple Random Sampling Without Replacement
ST	Scheduled Tribe
UEE	Universalisation of Elementary Education
UNESCO	United Nations Educational Scientific and Cultural Organisation
UNICEF	United Nations International Children's Emergency Fund
USA	United States of America
UTs	Union Territories
VEC	Village Education Committee
WB	World Bank
WFP	World Food Programme
WHO	World Health Organisation

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कार्यान्वयन सारांश

1 स्वतत्रता प्राप्ति के समय बालिकाओं की शिक्षा मे सहभागिता बहुत कम थी, यह सर्व विदित है। वर्ष 1950-51 में प्राथमिक स्तर पर बालिकाओं के सकल नामांकन-अनुपात (Gross Enrolment Ratio) 24 8 मात्र था। उसके पश्चात देश मे इस दिशा मे असाधारण रूप से प्रगति हुई। प्राथमिक स्तर पर बालिकाओ के सकल नामांकन-अनुपात जो 1970-71 में 60 5 था, 1992-93 में बढकर 73.5 हो गया। इसी अवधि में प्राथमिक स्तर पर बालिकाओं की विद्यालय छोड़ने की दर 70 9 प्रतिशत से घटकर 46 7 प्रतिशत रह गई।

2 स्वतत्रता प्राप्ति के पश्चात बालक तथा बालिकाओ की नामाकन सख्या के बीच अन्तर मे पर्याप्त कमी आई। नामांकन लिंग-समता (gender parity) सूचक जो 1965 में केवल 58 57 प्रतिशत था, 1993 मे बढकर 81.19 प्रतिशत हो गया। परन्तु बिहार, जम्मू और कश्मीर, मध्य प्रदेश, राजस्थान तथा उत्तर प्रदेश जैसे बड़े राज्यो में उस समय भी यह सूचक 80 प्रतिशत से कम था।

3 राज्य सरकारो ने प्राथमिक स्तर पर बालिकाओ की सहभागिता बढ़ाने के लिए कई कदम उठाये। इसके लिए जनसमुदाय को बालिकाओं की शिक्षा का महत्त्व समझाने के लिए अभियान चलाये। बालिकाये अपने छोटे भाई-बहनों की देखभाल में ही व्यस्त न रहें, इसके लिए शिशुसदन बनाए। इसके अतिरिक्त राज्य सरकारों ने मध्याह्न भोजन, नि.शुल्क पाठ्य-पुस्तकें, निःशुल्क पोषाक तथा बालिका उपस्थिति छात्रवृत्ति जैसे प्रोत्साहनों का प्रावधान किया ताकि अभिभावक बालिकाओ को शिक्षित करने के लिए प्रेरित हो सकें। इन प्रोत्साहन योजनाओ का उद्देश्य मुख्यत. सामाजिक तथा आर्थिक रूप से पिछड़े वर्ग के बालिकाओं की शिक्षा पर होने वाले अभिभावकों के वित्तीय भार को कम करना है। इन सब प्रोत्साहनों के बावजूद राष्ट्रीय प्रतिदर्श सर्वेक्षण- 52 वॉ दौर (1995-96) के अनुसार, 6+ से 10+ आयु वर्ग की 37 प्रतिशत ग्रामीण बालिकायें कभी भी विद्यालय नही गई। इसका मुख्य कारण वित्तीय प्रतिबध तथा बालिकाओ की शिक्षा के प्रति अभिभावको की उदासीनता रही है।

4 अभी तक प्रोत्साहन परियोजनाओ की क्षमता की समीक्षा-अध्ययनो से पता चलता है कि प्रोत्साहन मिलने से बालिकाओं के नामांकन में वृद्धि हुई है जबकि विद्यालय मे उनकी उपस्थिति मे सुधार के विषय मे मतभेद हैं। उदाहरण के लिए मध्याह्न भोजन परियोजना के अन्तर्गत खाद्यान्न सामग्री वितरित करने से नामाकन मे तो वृद्धि होती है परन्तु उपस्थिति दर मे सुधार नहीं। जबकि पका हुआ भोजन वितरित करने से नामाकन में वृद्धि के साथ-साथ उपस्थिति मे भी सुधार होता है। इन अध्ययनों के आधार पर यह भी कहा जा सकता है कि प्रोत्साहनो द्वारा आर्थिक दृष्टि से पिछड़े हुए वर्ग के बच्चों के नामाकन में वृद्धि, उनकी उपस्थिति में सुधार तथा विद्यालय छोड़ने की दर मे कमी आई है। अभी तक किए गये अधिकाश अध्ययन किसी एक विशेष राज्य पर सीमित रहे है।

5 यद्यपि राष्ट्रीय मध्याह्न भोजन योजना 1995 से सभी राज्यो में लागू की गई, तथापि गोआ (1967), तमिलनाडु (1956), पश्चिम बगाल (1977), चण्डीगढ (1980), लक्षद्वीप (1956), तथा पांडिचेरी (1960), में यह योजना पहले से ही विद्यमान थी। राष्ट्रीय योजना केवल प्राथमिक कक्षाओं के सभी बच्चो के लिए लागू की गई है। परन्तु तमिलनाडु तथा पांडिचेरी में कक्षा 1 से 10 तक के छात्र, गुजरात, केरल, अंडमान व निकोबार द्वीप समूह तथा लक्षद्वीप में कक्षा 1 से 8 तक के छात्र इस योजना से लाभावित हुए हैं। अधिकाश राज्यो मे

प्रत्येक छात्र को 3 किलोग्राम खाद्यान्न दिया जाता है। पश्चिम बंगाल, चण्डीगढ तथा दिल्ली में फ्रूटी ब्रेड जबकि गुजरात, जम्मू और कश्मीर, केरल, उडीसा, तमिलनाडु, दादरा व नगर हवेली, दमन व दीव तथा पांडिचेरी में छात्रों को पका हुआ भोजन दिया जाता है। वर्ष 1995-96 में वितरित खाद्य सामग्री की औसत लागत प्राथमिक शिक्षा पर हुए कुल व्यय का 3.30 प्रतिशत है। यह लागत दर गोआ (0 12) मे निम्नतम तथा दिल्ली (7 50) में अधिकतम है। राज्य सरकारो ने इस योजना को लागू करने में कई कठिनाइयों को वर्णित किया है। इनमे से मुख्यतः खाद्यान्न का निर्धारण गत वर्ष के नामांकन के आधार पर किया जाता है जिससे चालू वर्ष में नए नामांकित छात्र इससे वंचित रह जाते है, लाभावित छात्रो के बारे में जानकारी एकत्रित करने मे बहुत समय लग जाता है, सरकारी उचित दर की दुकानो के लिए खाद्यान्न के अग्रिम भुगतान मे देरी होने से मध्याह्न भोजन योजना के अन्तर्गत खाद्यान्न मिलने मे देरी; सरकार द्वारा भारतीय खाद्य निगम को खाद्यान्न की कीमत का समय पर भुगतान न होने से जुलाई, अगस्त तथा सितम्बर में खाद्य सामग्री मिलने में अवरोध; सरकारी उचित दर के दुकानदारों द्वारा अनाज का कम तौलना तथा खाद्यान्न का दुरूपयोग करना; खराब सड़के, ढुलाई के लिए स्वीकृत दरों का कम होना; शिक्षकों को बच्चों के पढ़ाने मे अवरोधन।

6. निःशुल्क पोषाक योजना 24 राज्यों तथा केन्द्रीय शासित प्रदेशो में लागू है। त्रिपुरा राज्य में यह सबसे पहले 1960 मे लागू की गई। आन्ध्रप्रदेश, असम, केरल, मणिपुर, नागालैंड, पंजाब, उत्तर प्रदेश तथा लक्षद्वीप मे यह योजना लागू नहीं है। इस योजना के अन्तर्गत सामान्यतया सामाजिक तथा आर्थिक स्तर पर पिछडे वर्ग के बच्चे आते है। हरियाणा, बिहार, हिमाचल प्रदेश, मध्यप्रदेश, मेघालय, त्रिपुरा तथा पश्चिम बंगाल मे यह योजना केवल बालिकाओ के लिए है। तेरह राज्यों में 1 से 5 कक्षा के बच्चे, नौ राज्यो में 1 से 8 कक्षा के बच्चे इस योजना से लाभ उठा रहे हैं तथा शेष दो राज्यों में से दमन व दीव मे 1 से 10 कक्षा के बच्चे तथा दिल्ली में 1 से 12 कक्षा के बच्चे इस योजना से लाभान्वित हो रहे हैं। तमिलनाडु राज्य में नि शुल्क पोषाक 1 से 8 कक्षा के केवल उन्हीं बच्चों को मिलती है जो कि मध्याह्न भोजन योजना मे सम्मिलित है। तीन चौथाई राज्यों मे यह योजना शिक्षा निदेशालय द्वारा सचालित होती है जबकि बिहार, गुजरात, उडीसा तथा तमिलनाडु राज्यो मे समाज-कल्याण विभाग द्वारा सचालन होता है। मध्यप्रदेश तथा कर्नाटक मे बुनकर संस्थाएँ इस योजना को कार्यान्वित करने में सम्मिलित की गई है। हरियाणा, मेघालय तथा त्रिपुरा मे पोषाक खरीदने के लिए नकद धनराशि दी जाती है जबकि जम्मू और कश्मीर, कर्नाटक, मिजोरम, चंडीगढ, दिल्ली, दादरा व नगर हवेली तथा दमन व दीव मे पोषाक के लिए केवल कपडा ही दिया जाता है, लेकिन गोआ, गुजरात, हिमाचल प्रदेश, मध्यप्रदेश, मेघालय, सिक्किम, तमिलनाडु तथा पश्चिम बंगाल राज्यो मे सिली हुई पोषाक दी जाती है। इस योजना से प्रति छात्र वार्षिक लाभ परिसर त्रिपुरा में 40 रुपए से लेकर दमन व दीव में 450 रुपए है। इस योजना पर व्यय प्राथमिक शिक्षा के कुल व्यय का प्रतिशत परिसर हिमाचल प्रदेश मे 0.04 से लेकर सिक्किम में 7 35 है। इस योजना को कार्यान्वित करने मे जो कठिनाइयाँ आती हैं उनमें से मुख्य है अपर्याप्त निर्धारण धनराशि, कपडों की पूर्ति के लिए एजेंसी निर्धारित करने मे देरी; एक पंचवर्षीय योजना से दूसरी मे इस योजना के लिए निर्धारित निधि मे कमी होना।

7 नि·शुल्क पाठ्य-पुस्तक योजना सभी राज्यो तथा केन्द्र शासित प्रदेशो मे लागू है। उडीसा मे यह 1950 में, सबसे पहले तथा उत्तर प्रदेश मे 1998 मे, सबसे बाद में लागू की गई। केरल, मणिपुर तथा उत्तर प्रदेश मे यह योजना केवल बालिकाओ के लिए है, जबकि तमिलनाडु के अतिरिक्त, शेष राज्यो में प्राथमिक कक्षाओं के बालक तथा बालिकाओं दोनो के लिए हैं। तमिलनाडु मे यह 1 से 8 कक्षा तक के उन सभी छात्रो के लिए है जो कि मध्याह्न भोजन योजना से लाभान्वित हैं। यह योजना उडीसा तथा पंजाब मे समाज कल्याण विभाग द्वारा

कार्यान्वित की जाती है जबकि असम, बिहार, कर्नाटक, राजस्थान तथा तमिलनाडु मे पाठ्यपुस्तक प्रकाशन निगम द्वारा। मणिपुर तथा त्रिपुरा में नकद धनराशि दी जाती है जबकि शेष सभी राज्यो मे पाठ्य पुस्तक वितरित होती है। इस योजना पर एक वर्ष का प्रति छात्र व्यय पश्चिमी बगाल (14 रुपए) मे सबसे कम तथा मिजोरम (443 रुपए) में सबसे अधिक होता है। इस योजना के अंतर्गत प्राथमिक शिक्षा की कुल धनराशि का प्रतिशत व्यय सबसे कम दादरा व नगर हवेली (1 05) मे तथा सबसे अधिक लक्षद्वीप (7 79) मे किया जाता है। पाठ्य-पुस्तको को रखने के लिए गोदामों की कमी, खराब सड़के, पुस्तको की आपूर्ति में देरी, संभरक द्वारा हिसाब देने मे देरी, अपर्याप्त निर्धारण धनराशि आदि इस योजना के कार्यान्वयन की मुख्य बाधाएँ हैं।

8 बालिका उपस्थिति छात्रवृत्ति योजना केवल 14 राज्यों तथा केन्द्र शासित प्रदेशो मे लागू है। त्रिपुरा में यह सबसे पहले (1962) तथा पंजाब में सबसे बाद (1992) मे लागू की गई। मिजोरम, राजस्थान तथा चंडीगढ में समस्त बालिकाएँ जबकि शेष ग्यारह राज्यो मे अनुसूचित जाति/अनुसूचित जनजाति/अन्य पिछड़ी जाति की बालिकाएँ इस योजना के अन्तर्गत आती है। प्रत्येक बालिका की एक वर्ष के लिए छात्रवृत्ति धनराशि पाडिचेरी (20 रुपए) में सबसे कम तथा पंजाब (500 रुपए) मे सबसे अधिक है। प्राथमिक शिक्षा पर कुल व्यय का इस योजना पर प्रतिशत व्यय दमन व दीव (2 20) में सबसे अधिक तथा हिमाचल प्रदेश (0.01) में सबसे कम है।

9. राज्यों की सामाजिक, आर्थिक तथा शैक्षिक पृष्ठभूमि पर आधारित 23 राज्य-स्तरीय सूचक विभिन्न राज्यो के बीच गहन विषमता दर्शाते है। इनमे से कुछ सूचक औसत से ऊपर वाले राज्यो में अधिक विषमता दर्शाते है। यह सूचक राज्य की जनसख्या, अनुसूचित जाति की जनसख्या, अनुसूचित जनजाति की जनसंख्या, खेतिहर महिला मजदूर, प्रति व्यक्ति मासिक व्यय तथा पक्की सडकें हैं। परन्तु गरीबी रेखा से नीचे रहने वाले व्यक्तियो पर आधारित सूचक औसत मूल्य से ऊपर वाले राज्यो तथा इससे नीचे वाले राज्यों के बीच समान विषमता दर्शाता है।

10 उपरोक्त 23 सूचको के मध्य सहसंबध गुणांक (Correlation Coefficient) सीमित रूप से ही उनके बीच संबंध दर्शा पाया हैं। परन्तु इस विश्लेषण ने दर्शाया कि विभिन्न राज्यो की जनसख्या का वितरण सूचक कई अन्य सूचकों से सबधित है। अतः प्राथमिक स्तर पर बालिकाओं की सहभागिता के अन्य सूचको से अनुबन्ध स्थापित करने के लिए पथ-विश्लेषण (path analysis) विधि के प्रयोग से पूर्व राज्यों की जनसख्या के अनुपात में आँकड़े समायोजित किये गए। इस पथ-विश्लेषण में विभिन्न घटको के बीच कालिक सबंधो के द्वारा प्रत्येक घटक के योगदान का आकलन अन्य घटको के अशदान को स्थिर रखने में सहायक हुआ।

11 उपरोक्त पथ-विश्लेषण विधि दर्शाती है कि बालिकाओ के नामांकन का राज्य स्तर पर अनुपात उन राज्यो मे अधिक है जहाँ गरीबी, प्रति व्यक्ति व्यय तथा अनुसूचित जाति की जनसख्या का अनुपात औसतन कम है। इसके अतिरिक्त दूसरी ओर शिक्षा सुविधा, पके भोजन का आबटन, नि·शुल्क पाठ्यपुस्तक, नि·शुल्क पोषाक तथा उपस्थिति छात्रवृत्ति के लक्ष्य क्षेत्र का विस्तार, तथा निःशुल्क पाठ्यपुस्तक योजना से लाभान्वित छात्र संख्या जैसे घटको के स्तरो मे वृद्धि से बालिकाओ के नामाकन भी बढे हैं। लेकिन मध्याह्न भोजन योजना के अन्तर्गत लाभान्वित छात्र सख्या बालिकाओं के दाखिले के अनुपात से ऋणात्मक रूप से ही संबद्ध है।

12. दाखिला अनुपात मे लिंग-समता सूचक मे अच्छी स्थिति वहॉ है जहॉ पर गरीबी तथा प्राथमिक स्तर पर प्रति व्यक्ति व्यय कम है। शिक्षा सुविधा, मध्याह्न भोजन का प्रकार, नि·शुल्क पोषाक के लक्ष्य क्षेत्र का विस्तार जैसे घटको का योगदान लिंग-समता बढाने मे सहायक रहा है।

13 तमिलनाडु में विद्यालय स्तर पर किये गए अध्ययन से पता चलता है कि वहॉ पर विद्यालयों मे बच्चों को मध्याह्न भोजन पूरे वर्ष (365 दिन) दिया जाता है। सभी बच्चों को सतोषजनक गुणवत्ता का भोजन पर्याप्त मात्रा मे मिलता है। अधिकाश विद्यालयो के अनुसार भोजन की गुणवत्ता की समय-समय पर जॉच की जाती है। लगभग 95 प्रतिशत विद्यालयो ने बताया कि मध्याह्न भोजन योजना से बालिकाओं के नामाकन तथा अवधारण (retention) मे वृद्धि हुई है। एक-तिहाई अभिभावकों ने सुझाव दिया कि भोजन की मात्रा में वृद्धि की जानी चाहिए। कुछ अभिभावको (16 67%) ने दूध तथा फल दिये जाने का भी सुझाव दिया। लगभग सभी विद्यालयो मे निःशुल्क पाठ्य पुस्तके सत्र के पहले माह मे ही वितरित कर दी जाती है। केवल 4 प्रतिशत विद्यालयो मे बच्चों को पुस्तके मिलने में एक माह की देरी हुई। सभी विद्यालयों मे पुस्तकें उनकी माग के अनुसार मिली। 89.3 प्रतिशत विद्यालयों मे इस योजना का निरीक्षण ब्लाक स्तर के अधिकारियों द्वारा किया गया। 96 प्रतिशत से अधिक विद्यालयो के अनुसार इस योजना से बालिकाओ के नामांकन तथा अवधारण में वृद्धि हुई। तीन-चौथाई से अधिक अभिभावको ने इच्छा प्रगट की कि इस योजना के अन्तर्गत बच्चो को कापियॉ भी मिलनी चाहिए। नि शुल्क पोषाक योजना 97 प्रतिशत विद्यालयो में चल रही है, उनमें से लगभग 93 प्रतिशत मे माग के अनुसार पोषाकें मिली। लगभग दो-तिहाई विद्यालयो में पोषाक सत्र के प्रथम दो माह में वितरित की गई। लगभग 15 प्रतिशत विद्यालयो ने उनकी सिलाई की गुणवत्ता के बारे में शिकायत की। उन्होंने इच्छा व्यक्त की कि पोषाक के दो सेट मिलने चाहिए तथा उनका कपडा अच्छी गुणवत्ता का होना चाहिए। अभिभावकों तथा ग्राम मुखियाओ द्वारा लगभग एक से ही विचार व्यक्त किये गए। विद्यालय स्तर के ऑकड़ो पर आधारित पथ-विश्लेषण से पता चलता है कि पोषाक योजना बालिकाओ के नामाकन तथा उनकी उपस्थिति पर सीधा धनात्मक प्रभाव डालती प्रतीत होती है। यह विश्लेषण यह भी दर्शाता है कि यदि शिक्षक विद्यालय में अधिक से अधिक उपस्थित रहे तो बालिकाओं का नामाकन प्रतिशत बढ सकता है। अवधारण दर मे लिंग समता तथा अभिभावको की बालिकाओ के प्रति मनोवृत्ति के बीच धनात्मक सबंध का भी पता चलता है।

14 उत्तरप्रदेश मे किये गये विद्यालय स्तर पर अध्ययन के अनुसार मध्याह्न भोजन योजना सभी चुने हुए विद्यालयो मे लागू है। 97 प्रतिशत से अधिक विद्यालयों मे 80 प्रतिशत उपस्थिति के मानक का पालन हो रहा है। आधे से कुछ अधिक विद्यालयों ने सूचित किया कि उन्हे इस योजना को कार्यान्वित करने मे आई कठिनाइयो का निवारण करने मे ग्राम शिक्षा समिति से कोई सहायता नही मिली। फैजाबाद तथा सुलतानपुर जनपदो के सभी विद्यालयो मे 1998-99 सत्र मे 5 से लेकर 10 माह तक बच्चो को खाद्यान्न वितरित नही हुआ। नैनीताल जनपद के कुछ विद्यालयो मे भी फरवरी तथा मार्च 1999 में कुछ इसी तरह की स्थिति बनी रही। इस योजना के अन्तर्गत प्रत्येक छात्र को एक सत्र में 10 माह तक तीन किलोग्राम प्रति माह के हिसाब से खाद्यान्न वितरित किया जाता है। अभिभावकों तथा ग्राम मुखियाओं ने सुझाव दिया है कि खाद्यान्न का वितरण या तो विद्यालय के माध्यम से किया जाए अन्यथा राशन कार्ड द्वारा। उन्होंने यह भी सुझाव दिया कि खाद्यान्न के साथ दाले तथा अन्य पौष्टिक खाद्य सामग्री भी दी जानी चाहिए। उन्होने खाद्यान्न की मात्रा तथा गुणवत्ता में वृद्धि के लिए अपेक्षा की। नि.शुल्क पाठ्य-पुस्तक योजना राज्य मे पहली बार 1998-99 मे डी.पी.ई.पी प्रोग्राम के अन्तर्गत 15 जनपदों मे लागू की गई। यह योजना दो डी पी ई.पी जनपदो के सभी 60

चुने हुए विद्यालयों मे चालू है। अधिकाश (96%) अभिभावको ने सूचित किया है कि बच्चो को पाठ्य-पुस्तके अच्छी हालत मे मिलीं। इन विद्यालयो में 85 प्रतिशत से अधिक ने सूचित किया कि इस योजना से बालिकाओ के नामाकन तथा अवधारण मे वृद्धि हुई है। विद्यालयो ने पुस्तको के वितरण मे हुई तीन से पाँच माह की देरी के विषय मे बताया। इसके अतिरिक्त 22 प्रतिशत विद्यालयो ने सूचित किया कि उन्हे पुस्तके माग के अनुसार प्राप्त नहीं हुई। अभिभावको तथा ग्राम मुखियाओं ने सुझाव दिया कि पाठ्य-पुस्तकें सत्र के प्रारभ में ही बच्चों को उपलब्ध की जानी चाहिए तथा सभी बच्चों को, विशेषतया गरीब बच्चो को चाहे वे किसी भी जाति के हो, मिलनी चाहिए। उन्होंने यह भी सुझाव दिया कि पाठ्य-पुस्तकों के साथ सलेट तथा कापियाँ भी दी जानी चाहिए। विद्यालय स्तर के आँकडो पर आधारित पथ-विश्लेषण मध्याह्न भोजन योजना तथा नि:शुल्क पाठ्य पुस्तक योजना के साथ बालिकाओं के नामांकन तथा उनके अवधारण का संबध स्थापित करने में उपरोक्त कारणो से असफल रहा।

Executive Summary

1. Girls' participation in education at the time of the Independence was very low as is evident from the girls' GER (24 8) at primary stage during the year 1950-51. Since then the country has made remarkable progress in this regard. The girls' GER at primary stage increased from 60.5 in 1970-71 to 73.5 in 1992-93 The dropout rate of girls at primary stage decreased from 70.9 per cent to 46.7 per cent during the same period.

2. Gender parity in enrolment though increased to a great extent from 58.57 per cent in 1965 to 81.19 per cent in 1993, it still varied widely across states/UTs. The bigger states like Bihar, Jammu & Kashmir, Madhya Pradesh, Rajasthan and Uttar Pradesh still had gender parity in enrolment below 80 per cent.

3 The state governments took several initiatives to enhance girls' participation at primary stage by organising community awareness campaigns for importance of girls' education and providing creches and day care centres to free the girls from the chore of baby sitting their siblings Besides, state governments introduced direct incentives like Mid-Day Meal (MDM), free supply of uniform, free textbooks and attendance scholarship for girls to motivate parents to educate their girls. These schemes also aimed at reducing the financial burden of educating girls on parents especially in the case of members from economically and socially weaker sections of the society. In spite of these incentives, the National Sample Survey- 52nd Round (1995-96) indicated that 37 per cent rural girls of age 6+ to 10+ were never enrolled in schools for which the major reasons were financial constraints and parental indifference towards girls' education.

4. Most of the past studies conducted to review the efficacy of the incentives indicated that incentives did help in increasing the enrolment of girls However, their findings differ in the case of improvement in attendance of girls in schools For example, distribution of dry food grain under MDM programme did increase the enrolment but not the attendance. On the other hand, cooked meals supplied to the students proved effective in promoting enrolment as well as attendance in schools. The studies have also indicated that the incentives are more beneficial to economically disadvantaged children in terms of boosting enrolment, their attendance and reducing the dropout. Most of the studies conducted so far were confined to a specific state/UT.

5. Although the national MDM scheme was introduced uniformly in all the states and UTs in 1995, it existed in Goa in 1967, Gujarat in 1984, Tamil Nadu in 1956, West Bengal in 1977, Chandigarh in 1980, Lakshadweep in 1956 and Pondicherry in 1960 The national scheme is meant for all children of primary classes. However, in Tamil Nadu and Pondicherry, students of classes I to X are covered, while in Gujarat, Kerala, A & N Islands, Lakshadweep, the scheme covers students of classes I to VII. Three kilograms of food grain per month is supplied to each student in most of the states. West Bengal, Chandigarh and Delhi supply fruity bread while cooked meal is served in Gujarat, Jammu & Kashmir, Kerala, Orissa, Tamil Nadu, Dadra & Nagar Haveli, Daman & Diu and Pondicherry The average cost of food grain for the year 1995-96 as percentage of total expenditure on elementary education is 3.30. It ranges from 0 12 in Goa and 7.50 in Delhi The state governments have reported several problems in the implementation of this scheme. These are: allocation of food grain is made on the basis of previous

year's enrolment depriving newly enrolled students of the current year; collection of information about number of beneficiaries takes considerable time; delay in advance payment for PDS food grain results in the delay of MDM food grain; non-payment of cost of food grain to FCI by the Union Government results into sanction of food grain during July, August and September; shortage of weight and misuse of food grain at retailer level; poor road communication, lower approved rates of transportation charges, non-reconciliation of accounts, and hindrance in discharge of legitimate teaching duty of teachers.

6 The scheme of free uniform is in operation in 24 states and UTs Tripura had this scheme as early as in 1960. Andhra Pradesh, Assam, Kerala, Manipur, Nagaland, Punjab, Uttar Pradesh and Lakshadweep do not have this scheme. This scheme generally covers socially and economically weaker sections of the society. The state of Haryana, Bihar, Himachal Pradesh, Madhya Pradesh, Meghalaya, Tripura and West Bengal have this scheme for girls only. Of the 24 states/UTs, thirteen covers only primary classes, while another nine states cover upper primary classes also. Daman & Diu, and Delhi cover up to secondary and higher secondary classes respectively The state of Tamil Nadu has linked this scheme with their MDM programme for students of classes I to VIII Three-fourths of the states/UTs operationalise the scheme through their Directorate of Education whereas State Departments of Social Welfare implement this scheme in Bihar, Gujarat, Orissa and Tamil Nadu Besides, Madhya Pradesh and Karnataka involve weaver societies in the implementation of this scheme. Students are given cash to purchase their uniform in Haryana, Meghalaya and Tripura whereas unstitched cloth is provided in Jammu & Kashmir, Karnataka, Mizoram, Chandigarh, Delhi, Dadra & Nagra Haveli, and Daman & Diu. The states providing stitched uniform are Goa, Gujarat, Himachal Pradesh, Madhya Pradesh, Meghalaya, Sikkim, Tamil Nadu and West Bengal. Quantum of benefits for a student during a year ranges from Rs 40 in Tripura to Rs. 450 in Daman & Diu. The expenditure on this scheme as percentage of expenditure on elementary education ranges from 0.04 in Himachal Pradesh to 7.35 in Sikkim. Difficulties in the execution of the scheme are inadequate allocation of funds in view of a large number of backward classes, delay in fixing agencies for supply of clothes, the rate being lower as compared to current price level, and reduction in funds provided for this scheme from one Five Year Plan period to the next.

7. The scheme of free textbooks/notebooks is being implemented in all the states and UTs The state of Orissa launched this scheme in 1950 and Uttar Pradesh in 1998 only in DPEP districts. This scheme is only for girls in Kerala, Manipur and Uttar Pradesh whereas in other states it is for both boys and girls of primary classes except in Tamil Nadu where students of classes I to VIII covered under MDM scheme are covered Union Territories generally cover only backward classes. The scheme is implemented by Welfare Departments of Orissa and Punjab, Textbook Publication Corporations in Assam, Bihar, Karnataka, Rajasthan and Tamil Nadu. Except Manipur and Tripura which make payment in cash to students, the other states/UTs supply textbooks. The amount spent on the scheme per student per annum varies from Rs. 14 in West Bengal to Rs. 443 in Mizoram. The percentage of expenditure to total expenditure on elementary education varies from 1 05 in Dadra & Nagar Haveli to 7.79 in Lakshadweep. The states have indicated problems in implementation of the scheme with regard to storage of books, disruption in road communication, delay in supply of textbooks, delay in submission of accounts by the supplier, inadequacy of funds which get reduced from one Five Year Plan to the next, shortage of funds to cover all children.

8 Attendance scholarship for girls is provided in the 14 states and UTs. Tripura introduced this scheme as early as 1962 and Punjab in 1992 Mizoram, Rajasthan and Chandigarh cover all girls whereas the scheme is meant for SC/ST/OBC girls in the remaining 11 states The amount of scholarship per student per annum varies from Rs 20 in Pondicherry to Rs. 500 in Punjab The percentage of budgeted expenditure on this scheme to elementary education is maximum i.e 2.20 in Daman & Diu and minimum i e 0 01 in Himachal Pradesh.

9. The 23 state level indicators depicting the socio-economic and educational background of states/UTs have shown a great deal of heterogeneity across states and UTs Some indicators like State Population Size, SC Population, ST Population, Female Agricultural Labourers, Monthly Per Capita Expenditure (95th Percentile), and Surfaced Road have shown lesser variation below the median value which thereby indicates wider degree of variation among the states having higher values. The proportion of persons below poverty line is an exception and is almost uniformly distributed about its median.

10 The simple correlation coefficients amongst the 23 indicators did provide some relation between them. The distribution of population across states indicated that it is related to several indicators. Before undertaking the path analysis for establishing their linkages with the girls' participation at primary stage, the data have been adjusted in proportion to the size of the state population. The path analysis used temporal relationship and provided estimates of contribution of each factor when others' contribution is held constant

11. The above mentioned analysis has indicated that the girls' GER tends to be negatively associated with poverty, per capita expenditure and proportion of SC population on the one hand It has indicated a positive association with the availability of schooling facility, supply of cooked meal, broader base for the free textbooks, free uniform, attendance scholarship, and beneficiaries under textbook scheme, on the other However, beneficiaries under Mid-Day Meal programme have provided indication of its negative association with the girls' GER.

12. Significant evidence for dominance of socio-economic variables like poverty and per capita expenditure on elementary education have been indicated for having negative association with gender parity in GER Further, it seems to be positively associated with schooling facility, meal mode and broader base for free uniform. Further, poverty seems to be negatively associated with the change in gender parity over a period from 1993 to 1997 whereas schooling facility and broad base of free textbooks scheme provided positive association with it.

13. The field study in Tamil Nadu has indicated that noon-meal is served to students throughout the year including holidays. The quality of the meal is satisfactory and quantity is also sufficient The quality of meal is regularly checked as reported by majority of the schools. Almost all schools (95%) have reported that the noon-meal programme has helped in increasing enrolment and retention of girls However, 33 percent of the parents suggested that an increase in the quantity of the meal was desirable. Some parents (16.67%) have also suggested serving of milk and fruits. Free textbooks were distributed in most of the schools during the first month of the session Only 4 per cent schools have reported delays of about one month Further, the books are supplied to schools as per their demands and the scheme is monitored and supervised by the AEEOs as reported by 89 3 per cent schools. More than 96

per cent of the schools were of the opinion that this scheme has also helped in increasing the enrolment and retention of girls. Further, more than 75 per cent of the parents desired to have note-books under this scheme. Most of schools (97 1%) have reported supply of free uniform and about 93 per cent of them have received supply as per their demand. About two-thirds schools have distributed free uniform to students during the first two months of the session. A small proportion (15%) of schools have complained about the quality of stitching of the uniform. They desired to have two sets of uniform and improvement in the quality of the cloth. The parents and the village heads have more or less the same opinion. The path analysis using the school level data has indicated that the scheme of free uniform appears to have direct positive effect on girls' enrolment and their attendance. The percentage of girls' enrolment is likely to increase if the teachers increasingly remain present in schools. The gender parity in retention rate is positively associated with the attitude of parents towards girls' education.

14. The field study in Uttar Pradesh indicated that the scheme of Mid-Day Meal is being implemented in all the sampled schools The criterion of 80 per cent attendance is being followed in more than 97 per cent of the schools. A little more than half of the schools have reported that they do not get any help from Village Education Committees in solving the problems pertaining to implementation of the scheme Out of the five selected districts, all the schools of two districts (Faizabad and Sultanpur) have reported that cereals were not distributed to students for 5 to 10 months during the year 1998-99 and in Nainital district some schools have reported the same position for the month of February and March 1999. Three kilograms of cereal per month is distributed to each student for 10 months during a session under this scheme Parents and village heads have suggested that cereal should be distributed either through schools or with the Ration Card on a fixed day of each month. They also suggested inclusion of pulses and other nutritious food along with cereal. They have asked for an increase both in the quantity and the quality. The scheme of free textbooks has been introduced for the first time under the DPEP programme in 15 districts during 1998-99 This scheme is in operation in all the 60 sampled schools from the two DPEP districts. Majority of parents (96%) have informed that the books were received in good condition. More than 85 per cent of these schools have reported that this scheme has helped in increasing the enrolment and retention of girls. Schools have also reported a delay of 3 to 5 months in the distribution of free books. Besides, 22 per cent of these schools have also reported that the books were not supplied to them as per demand. Parents and village heads suggested that textbooks should be supplied in the beginning of the session and be given to all the students especially to poor children irrespective of their caste They have also suggested the supply of slates/exercise books along with the textbooks. The path analysis of school level data from Uttar Pradesh failed to substantiate relationship with the two incentive schemes for the situation as explained above.

CHAPTER ONE

Introduction

1.1.0 Need and Objectives of the Study

1.1.1 Schooling of girls has been found to alter girls' behaviour resulting into higher productivity and increase in a variety of household welfare activities. Numerous evidences in this regard have been accumulated at the national as well as the international levels For instance, increase in girls' education is positively associated with decrease in fertility, infant and child mortality rates and also reduction in the evidence of communicable diseases. Behavioural changes brought by education improve household health through improved nutritional and health care practices, and schooling performance of their children. In order to transmit these benefits to the society, primary education of girls is particularly important

1.1.2 Under the programme of Universalisation of Elementary Education (UEE), the government has been striving to enrol all children of age-group 6+ to 13+ in schools and retain them till they complete elementary education. Girls' education occupies an important place under this programme It has been amply reinforced whenever the government has reviewed and reformulated its policy on education. For instance, the National Policy on Education-1986 (MHRD, 1992) attached high priority to reduction of the disparity in enrolment of girls and of Scheduled Castes and Scheduled Tribes especially at primary level, i.e in grades I to V. It has received high priority in the planning of the strategy for implementing the policy. The objectives of the updated national policy on education, approved by the national Parliament in 1992, sharpens the priorities to girls' education and improvement of quality in primary education.

1 1.3 In this endeavour adequate schooling facilities were provided, school buildings and toilets for girls were constructed; female teachers were appointed; and schools were equipped with suitable teaching material to provide quality education Besides, state governments introduced a range of strategies to enhance girls' participation at primary stage by way of bringing gender parity in enrolment and reduction in dropout These are awareness campaigns to educate the community about importance of girls' education, provision of facilities of creches and early childhood centres in order to relieve girls from the burden of caring for siblings, establishing flexible school schedules to enable girls to attend to domestic work; provision of free education, and provision of direct incentives. The direct incentives include Free Uniform, Mid-Day Meals, Free Textbooks, Attendance Scholarship for girls and free transport.

1.1 4 The policies of the Government and the aforesaid strategies in the states and UTs did bring about remarkable improvement in girls' participation at the primary stage. There is still a substantial proportion of girls in the age group 6+ to 10+ who have never got enrolled As per 1995-96 National Sample Survey 52nd round 37.0 per cent rural girls belong to this category and their counterparts in urban areas constituted 13 8 per cent. For removing this bottleneck, it is imperative that the various initiatives taken by the Government need to be reviewed and adequately strengthened by providing research based interventions.

1.1.5 The above mentioned survey has reported main reasons for non-enrolment of girls as lack of interest of parents (35.6 %) and children in studies (17.7 %) and financial constituents (16.6 %) in case of rural areas. In the case of urban areas, the reasons for non-enrolment of girls remained the same with minor variation in the response rate. The problem of non-enrolment of girls, therefore, may be attributed to socio-economic factors which can be taken care of by concentrating on states' initiatives like awareness campaign about importance of girls' education, provision of facilities of creches and earlier childhood centres, direct incentives etc.

1 1 6 Among the above mentioned initiatives to improve girls' education at primary stage, the direct incentives need special emphasis in view of these implicitly lower the cost of education and also bring about a change in the attitude of parents towards girls' education. Besides, these contribute about 5 per cent of the total expenditure on education at elementary stage. It is more than twice the combined expenditure on furniture, educational materials including the ones supplied under the "Operation Black-board" scheme, minor renovation, school stationery and activities related to inspection and in service training. Therefore, review of the direct incentives will provide insight for improvement of their efficacy and ultimately the vehicle for improvement of girls' participation at primary stage. Further, the 73rd and 74th Constitutional amendments envisaged transfer of management of education to local bodies and Panchayat Raj paving the way for decentralised planning. In this context, review of the direct incentives will lead to streamlining their execution.

1.1.7 The four incentive schemes, namely, Mid-Day Meal, free uniform, free textbooks/notebooks, and attendance scholarship for girls have been in operation in schools for quite some time With the aforesaid purpose in view, the Director, UNESCO proposed that NCERT conduct an evaluation study of the above mentioned incentive schemes. To achieve this end, an information base depicting various components of policy on each incentive at the state level needs to be built up. This information base needs to be complemented to look into the efficacy of the policy initiatives at the school level in each of the 32 states/UTs and for each of the aforesaid four incentives. A study of this dimension requires huge financial resource and time It was, therefore, considered worthwhile to limit the study to the following objectives.

(i) To provide basic input required for developing cost effective modes of incentive schemes; and

(ii) To estimate the contribution of incentive schemes on girls' participation in primary schools in the states of Tamil Nadu and Uttar Pradesh.

A contract (No. BOC/Ref.8600568) to this effect between the UNESCO and NCERT was signed on 15.09.98

1.1.8 The first objective of the study focuses on variation in state policy on incentives and identification of correlates of girls' participation. These issues are more intensively studied at school level in Tamil Nadu and Uttar Pradesh Thus, these raise two sets of questions. One set of questions relates to state policies and their implementation. The other set pertains to implementation at the school level. With this purpose in view, the study has been designed in two phases. Phase I pertains to state level.

(a) State level Study (Phase I)

(i) What are the incentive schemes and what levels of population are covered under their implementation?
(ii) To what extent do states vary in the implementation of incentive schemes?
(iii) To what extent do states vary with regard to each of the input and output variables?
(iv) How far do socio-economic conditions, financial inputs, infrastructure facilities in schools and incentives improve levels of criterion (output) variables?

(b) School level Study in Tamil Nadu and Uttar Pradesh (Phase II)

(i) Is there any deviation from the state norms in the implementation of the incentive schemes across schools?
(ii) To what extent do schools vary in respect of output variables within a state?
(iii) How do the home and school environment affect the output variables?
(iv) Do incentives result in improving levels of output variables?

The above research questions will be addressed separately for Tamil Nadu and Uttar Pradesh

1.2.0 Implementation of Universalisation of Elementary Education

1.2.1 The foundation of the present education system of the country was laid in the beginning of the 19th century during the British rule. It was based on the principle that 'Education is to be for all irrespective of caste and status' The system inherited during the colonial rule had its own limitations The sustained and continuous economic exploitation of the country resulted into abysmal poverty and illiteracy of the teeming millions in the country at the time of Independence. In 1951, only 16.7 per cent of the people were literate. The corresponding figures for males and females were 25 0 per cent and 7.9 per cent respectively The GER at primary stage was 42 6 for both boys and girls together while it was only 24 8 for girls in 1950-51. Further, the number of primary schools then was 210 thousand which had an enrolment of 19 2 million of which only 5.4 million (28 1%) were girls (MHRD, 1999).

1.2.2 The immensity of the problem of education at the time of Independence of the country, as is evident from the preceding paragraph, was recognised by the founding fathers of the Indian Constitution who set the goal of provision of universal elementary education (Article 45), promotion of educational and economic interest of the weaker sections (Article 46) and unrestricted admission for citizens of the country in any state, funded or owned institution, without any consideration of religion, race, caste, language or any of them (Article 29(2)).

1.2.3 The first task before the country was to provide educational facilities, especially in rural areas, to fulfil the Constitutional obligation for the Universal Elementary Education (UEE). The first All India Educational Survey (AIES) was conducted in 1957 with the main objective to specify the norms for provision of educational facilities, assessment of existing facilities and preparation of district development plans for opening of new schools so as to fulfil the commitment of achieving UEE (MOE, 1960).

1 2.4 The survey findings were utilised for formulation of the Third Five-Year Plan. Consequently, opening of new schools, teachers' training, and provision of infrastructure facilities in schools received a high priority During this period all the State governments enacted legislation for free and compulsory primary education The Mid-day Meal (MDM) programme, free or subsidised, existing in some of the states even before Independence, was uniformly launched in 1962-63 (MOE, 1967) for elementary school children in pursuance of the recommendation of the School Health Committee appointed by the Union Government in 1960. For this purpose, the international organisations made available food commodities as gift The transportation and incidental expenses were borne by the government. The gift of a printing press from the government of West Germany and gift of paper received from the governments of Australia and Sweden for printing of textbooks enabled the government to distribute free or subsidised textbooks.

1 2.5 The Government of India appointed the Education Commission by a Resolution dated 14th July 1964 to advise the government on a national pattern of education and on the general principles and policies for the development of education at all stages of education and in all aspects. The Education Commission (NCERT, 1971) reviewed the situation and made recommendations which led to the formulation of the following policy of the Government of India.

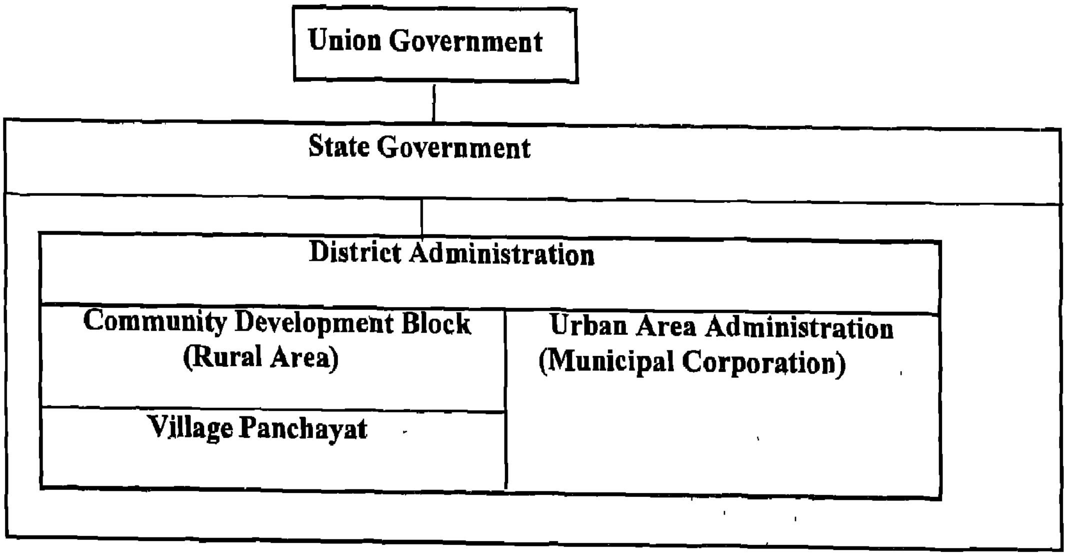
> (a) "Suitable programmes should be developed to reduce the prevailing wastage and stagnation in schools and to ensure that every child who is enrolled in school, successfully completes the prescribed course."
>
> (b) "Of all factors which determine the quality of education and its contribution to national development, the teacher is undoubtedly the most important It is on his personal qualities and character, his educational qualifications and professional competence that the success of all educational endeavour must ultimately depend "
>
> (c) "Regional imbalances in the provision of educational facilities should be corrected and good educational facilities should be provided in rural and other backward areas."
>
> (d) "The education of girls should receive emphasis, not only on grounds of social justice, but also because it accelerates social transformation."
>
> (e) "More intensive efforts are needed to develop education among the backward classes and especially among the tribal people "
>
> (f) "It will be advantageous to have a broadly uniform educational structure in all parts of the country. The ultimate objective should be to adopt the 10+2+3 pattern, the higher secondary stage of two years being located in either schools, colleges or both according to local conditions."

1.2.6 The Second AIES (NCERT, 1967) was conducted with 31 December 1965 as the date of reference to assess the progress of school education and to plan the provision of education during the Fourth Five-Year Plan. It revealed that the percentage of rural habitations served by primary schooling facility increased from 71.42 in 1957 to 87.23 in 1965 and the percentage of habitations with facility for middle stage (now labeled as upper primary stage) increased from 50.34 to 72.58 during the same period. The Second AIES further indicated that bulk of the rural habitations not served at elementary stage by schooling facilities were of small size.

1.2.7 Although adequate schooling facility in rural areas was provided, low enrolment in schools was highlighted by the Second AIES According to the survey, the gross-enrolment ratio (GER) at primary stage, i.e., enrolment at primary stage as percentage of the child population in the age-group 6+ to 10+, was 74.36 whereas GER at the upper primary stage which is defined as the percentage of enrolment at the upper primary stage to the child population in the age-group 11 + to 13+, was only 30.15 The corresponding GERs for girls were 54.70 and 16.33, which were much lower than the aforesaid overall GERs. To overcome the problem of low participation at elementary stage, the schools started organising enrolment drives and state governments initiated action on qualitative improvement of elementary education. The non-formal education programme was introduced for school dropouts, for children from habitations without schools, working children and girls who cannot attend whole day schools.

1.2.8 The initiative of the government and their efforts did bring discernible progress in the direction of achieving UEE. These policy initiatives, however, did not have the desired impetus on the progress of achieving the goal because of the federal administrative structure (refer Figure 1.1) wherein each state had powers of legislating on education. The 42nd amendment of the Indian Constitution introduced during 1976 put the education in the Concurrent List and empowered the Indian Parliament with the authority to legislate on education concurrently with the states.

Figure 1.1
Administrative Structure



1.2.9 The National Policy on Education-1986 (NPE-86) (MHRD, 1992) reviewed the UEE and emphasised that the new thrust in elementary education will focus on: (i) universal access and enrolment (ii) universal retention of children up to 14 years of age; (iii) substantial improvement in the quality of education to enable all children to achieve essential levels of learning. It emphasised child-centred and activity based learning approach and provision of essential facilities in schools. A phased programme, popularly called 'Operation Black Board' was immediately undertaken to improve primary schools all over the country.

1.2.10 The 73rd and 74th amendment in the Constitution during 1992 provided for decentralisation of school education and transfer of primary education to Panchyati Raj institutions. It ensured community involvement and decentralised planning. In addition to this, the Programme of Action 1992 (POA-92) of the NPE-86 (MHRD, 1993) envisaged adoption of disaggregated target setting and decentralised planning while formulating the strategy for UEE. It observed that within each state, even in educationally backward ones, there are districts, which are almost within the reach of universalisation, while even in the educationally advanced states there are districts, which are still quite backward. Therefore, it was considered necessary to prepare district-specific and population-specific plans for UEE within the broad strategy frame of micro-planning through people's participation and introduction of Minimum Levels of Learning (MLL) in schools to improve learner's achievement. Micro-planning was to provide the framework for universal access and universal participation while MLL would be the strategy frame of universal achievement. Under this broad strategy a number of strategies focussing on different dimensions of UEE have been proposed. As per the specified strategies in the POA-92, the Government of India took several initiatives, including the District Primary Education Programme (DPEP) in 1993. The objective of DPEP is to develop and implement in the selected districts, a replicable, sustainable and cost effective programme so as to (i) reduce differences in enrolment, dropout and learning achievement among gender and social groups to less than 5 per cent, (ii) reduce overall dropout rates for all students to less than 10 per cent, (iii) raise average primary achievement by 25 per cent over measured baseline levels, and (iv) provide according to national norms, access for all children to primary education classes (I to V) in primary schools, wherever possible, or its equivalent through non-formal education (Saxena, Singh and Gupta, 1996).

1.2.11 The aforesaid initiatives of the government resulted into increase in GER at primary stage (MHRD, 1999) from 78.6 in 1970-71 to 84.5 in 1992-93 and at the upper primary stage from 33 4 in 1970-71 to 67.5 in 1992-93. The corresponding values for girls at primary stage rose from 60.5 in 1970-71 to 73.5 in 1992-93 and at the upper primary stage, these were 20.8 in 1970-71 and 48.9 in 1992-93. Similarly, dropout rate (computed by using conventional method) decreased from 67 0 per cent in 1970-71 to 45.0 per cent in 1992-93 at the primary stage and at the upper primary stage, it went down from 77 9 per cent in 1970-71 to 61.1 per cent in 1992-93 In the case of girls, it dropped from 70.9 per cent in 1970-71 to 46 7 per cent in 1992-93 at the primary stage and at the upper primary stage from 83.4 per cent to 65 2 per cent during the same period.

1.3.0 Girls' Participation in Primary Education

1 3.1 In the preceding section, initiatives of the government during post-Independence period have been examined vis-a-vis extent of fulfilment of UEE. However, the participation of girls in education remained lower than that of boys as indicated in the preceding paragraph. This concern of the country

was recognised by the Indian Education Commission as far back as in 1882 (MOE, 1959) It recommended incentives, like liberal grant of concession in fees, award of prizes and institution of scholarship to attract girls to schools and retain them therein for a longer period The economic deprivation created hurdles for the education of girls. The economic constraints left to the care of girl child, household chores as a compensation for lost wages for which she could not be relieved from her home.

1 3 2 The problem of education of girls and women in India acquired greater significance since the attainment of Independence The Educational Panel of Planning Commission recommended in 1957 that a suitable committee should be constituted to go into the various aspects of problem relating to the education of girls As a consequence, the National Committee on Women's Education (1958-59) was constituted under the chairmanship of Smt Durgabai Deshmukh The Committee (MOE, 1959) recommended that "Concession in kind and not cash should be given to all girls, rural or urban, of parents having an annual income below a certain level Such concessions should cover books and stationery, school uniform or clothing and other necessary educational equipment."

1.3 3 The problem of free and compulsory elementary education was recognised as a problem of equity and equality of educational opportunity by the Education Commission-1964-66. These gross inequalities are caused by poverty, gender and caste differentials which the Commission (NCERT, 1971) proposed could be narrowed with the introduction of some incentive schemes besides making primary education free. The NPE-86 (MHRD, 1992) also suggested support services for the removal of women's illiteracy and obstacles in their education and retention in schools till they complete the primary cycle.

1.3.4 The aforesaid special programmes in girls' education and the 42nd Constitutional amendment did have desirable impact at the state level as is evident from Figure 1.2 depicting state profiles for girls' participation at the primary stage in terms of girls GER for the years 1965, 1978, 1986 and 1993 (NCERT, 1967, 1982, 1992, 1998a) It not only improved the national scenario from 54.7 to 73.1 but led most of the states having very low performance to improve during the intervening period. It has, in a way, reduced regional disparity to a great extent The states having initial values below the national average in 1965 and attained the values above the national average in 1993 are Arunachal Pradesh, Assam, Haryana, Himachal Pradesh, Madhya Pradesh, Orissa, Tripura, West Bengal and Dadra & Nagar Haveli

1 3.5 The other bottleneck in achieving UEE as observed by the Education Commission-1964-66 (NCERT, 1971) was the gender inequality in respect of enrolment. It is examined by using the gender parity index, which is defined as the percentage of girl GER to boys GER For this purpose the same data set is used as that for girl GER in the preceding section. The gender parity at the primary stage rose from 58.57 in 1965 to 81.19 in 1993 at the national level The state-wise profile of gender parity depicted in Figure 1 3 indicates discernible improvement in gender parity in case of most of the states. The states achieving gender parity of more than 90 per cent at the primary stage are Goa, Haryana, Himachal Pradesh, Kerala, Maharashtra, Manipur, Meghalaya, Nagaland, Punjab, Tamil Nadu, A & N Islands, Chandigrah, Daman and Diu, Delhi, Lakshadweep and Pondicherry. The gender parity below 80 per cent still prevails in the bigger states like, Bihar, Jammu & Kashmir, Madhya Pradesh, Rajasthan and Uttar Pradesh.

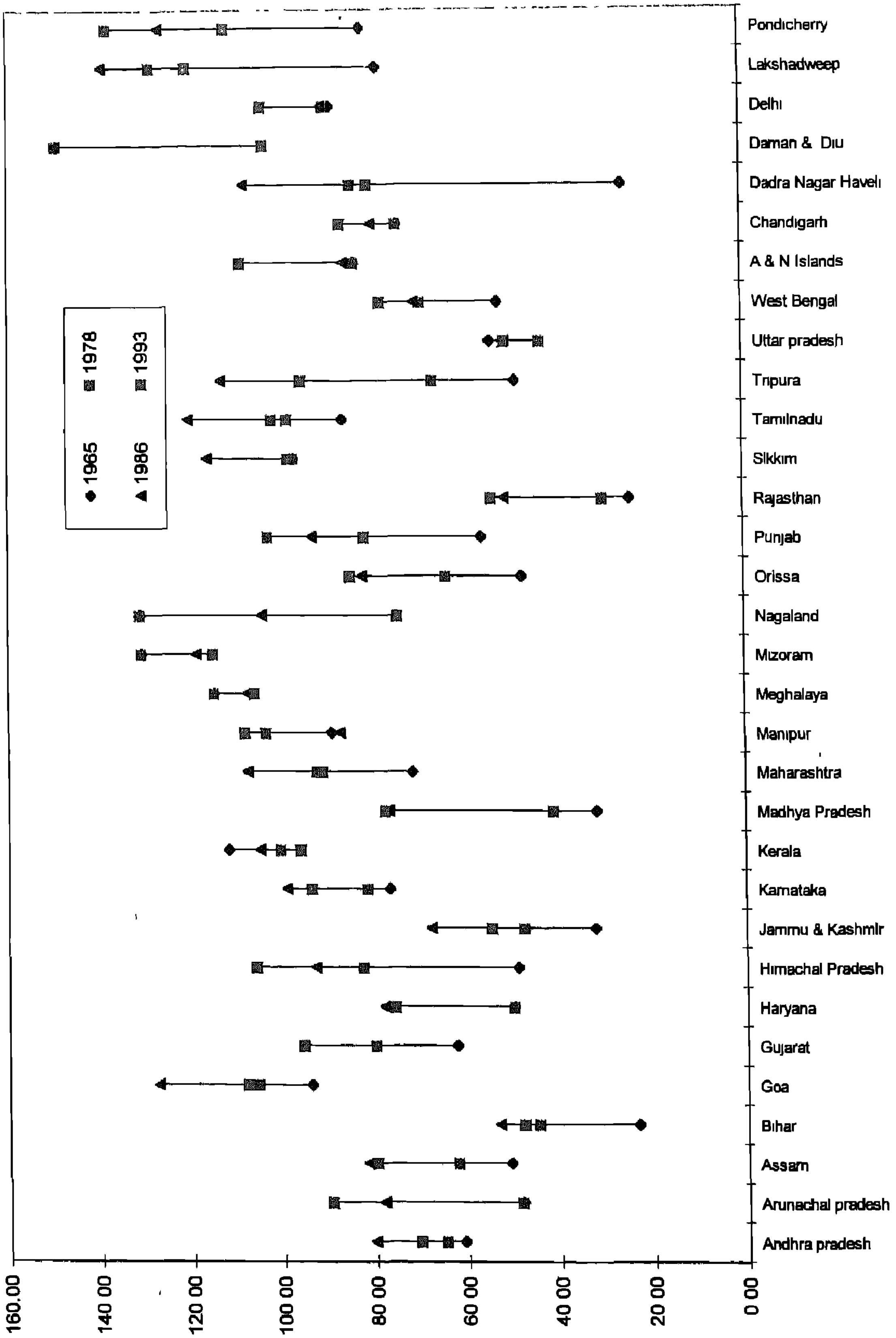
1.3.6 The low participation of girls as well as low gender parity is attributed to social customs, poverty and illiteracy The system of incentives to overcome social, economic and educational handicaps, has since long been an integral part of educational planning for UEE. These incentives, started to provide nutritional support in view of the rampant malnutrition among children, took the shape of MDM programme. Some other incentives like Free Uniform, Free Text-books/note-books and Attendance Scholarship for Girls were introduced in the country from time to time These incentives have been given due importance in the planning for educational development. The Eighth Five-Year Plan (PC, 1997) states that "A recent evaluation of these schemes has made a positive assessment but has also emphasised the need for adequate attention to management aspect of the system so that they yield the desired result A comprehensive package of support services and incentives for girls, SCs, STs and children of the economically weaker section of society will be provided. The emphasis will be on provision of facilities with special relevance for retention of girls..."

1.4.0 Historical Perspective on Incentives

1.4 1 The Mid-Day Meal programme is essentially a child welfare programme. This programme is considered to be the most potential incentive for children belonging to disadvantaged class of society to attend school regularly and improve their health and academic status at the same time. In addition, the programme benefits the children in several ways such as helping them in inculcating proper dietary habits and developing a balanced personality, free from social and economic inhibitions. Due to these considerations educational administrators and researchers world over deliberated upon different aspects of this incentive. The detailed review of the programme can be found in reports due to Devadas and Radharukmani(1966), Saxena and Mittal(1985) and MHRD(1995a). The following discussions about the historical perspective of MDM scheme are based on the aforesaid reports

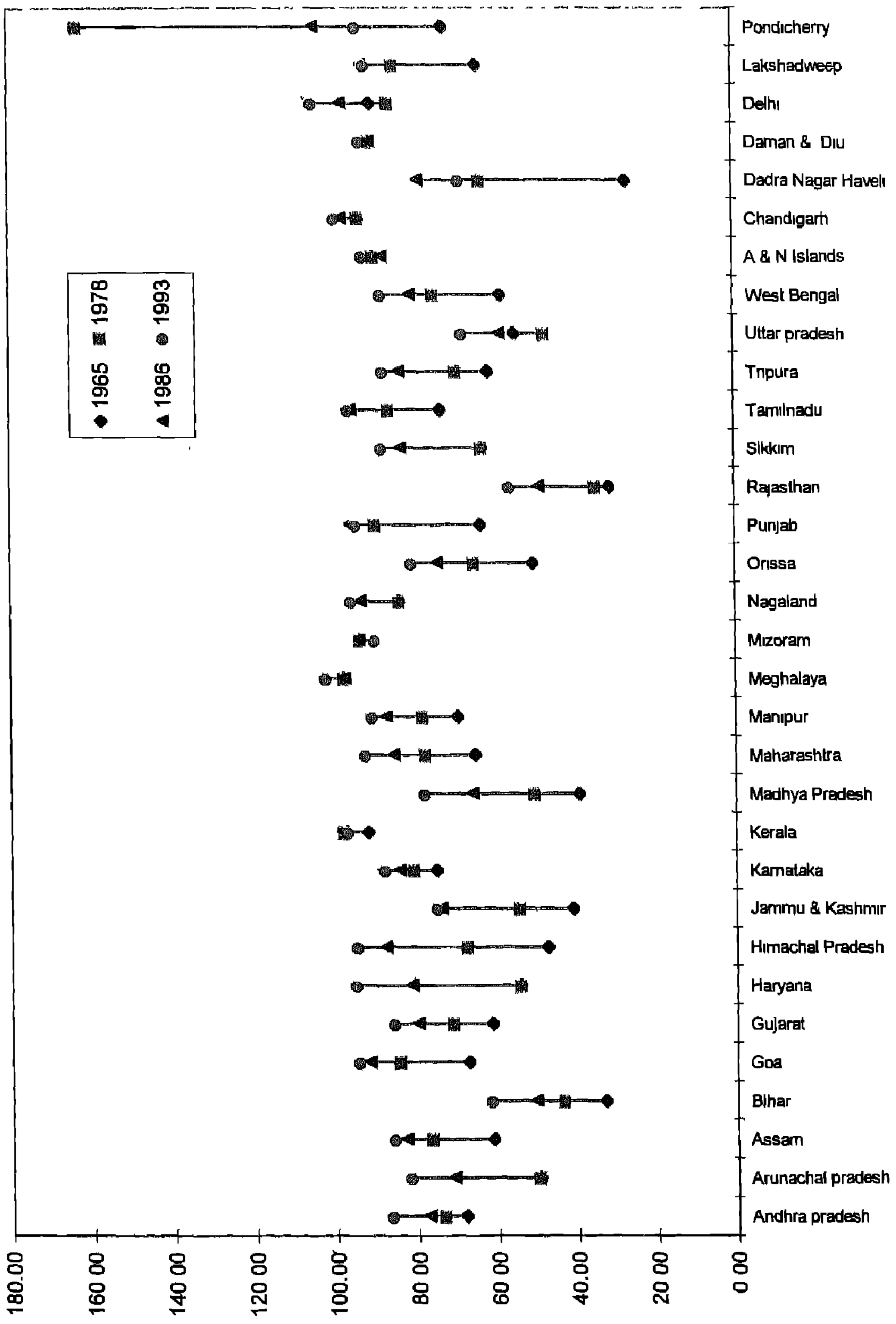
1.4.2 The School Lunch Programme (SLP) was launched for the first time in the world at the initiative of a Frenchman, Victor Hugo in the year 1865 for the children of France. Some voluntary agencies introduced this programme in England and Germany before the First World War In India the history of SLP is three quarters of a century old. It was started in 1925 in Chennai (erstwhile Madras) for the children belonging to socially and economically weaker sections of the society in the Madras Corporation area Subsequently, other State governments also initiated the programme by either using their own resources or with the assistance of international agencies, such as UNICEF, WHO, FAO, etc Keshav Academy of Calcutta introduced a compulsory Mid-Day tiffin in 1928 for students by charging four annas (quarter of a rupee) per child per month. Initially this programme remained an urban phenomenon. SLP was launched in some parts of Kerala in 1941 followed by Bombay with the introduction of free MDM in 1942. MDM scheme to provide cooked rice and yoghurt was introduced in Bangalore in 1946 Uttar Pradesh introduced the scheme on voluntary basis to provide meals consisting of, roasted or sprouted gram, ground nut, puffed rice, boiled potatoes or seasonal fruit in 1953 Many states introduced MDM programme with the assistance of international agencies in 1950s. International voluntary/charity organisations like Catholic Relief Service (CRS), Church World Service (CWS), USA's Meals for Million, etc. also came forward to help in these programmes. An Expanded Nutrition Programme (ENP) jointly by FAO, WHO, UNICEF and Government of India was introduced which subsequently expanded into Applied Nutrition Programme (ANP).

Figure 1 .2
State Profile of Girls GER



Note Figures for 1978 have been considered for the year 1965 in case of states of ARU, HAR, MEG, MIZ, NAG, SIK, ANI, CHA as these ones were not in existence then. Figures of 1986 are included in the years 1965 and 1978 in case of Daman and Diu

Figure 1.3
State Profile of Gender Parity in GER



Note : Figures for 1978 have been considered for the year 1965 in case of states of ARU, HAR, MEG, MIZ, NAG, SIK, ANI and CHA as these ones were not in existence then. Figures of 1986 are included in the years 1965 and 1978 in case of Daman and Diu

1.4.3 Co-operative of American Relief Everywhere (CARE) supported these programmes by supplying food commodities under PL 480 Title II Programme which was initially made available to seven states, namely Andhra Pradesh, Kerala, Karnataka, Maharashtra, erstwhile Punjab, Rajasthan and Tamil Nadu(erstwhile Madras State) CARE support to MDM programme was extended to five more states in 1965-66, namely, Gujarat, Madhya Pradesh, Orissa, Uttar Pradesh and West Bengal Thus CARE emerged in 1960's as the major supporter of MDM programme in major states of the country that enabled them to cover a large segment of students studying in primary classes.

1.4.4 The Report of the Committee on Mid-Day Meals (MHRD 1995) has presented an account of the chequered development of the scheme during the past two decades The idea of the National MDM was considered again and again The idea of "Food for Learning" with FAO commodity support was mooted in 1982 Scheduled Caste and Scheduled Tribe girls were to be covered under this programme. The Department of Education after inter-ministerial consultations prepared a scheme on the guidelines of the World Food Programme (WFP) in 1983. The WFP was to bear the cost of food grain while overheads like transportation, handling, cooking, etc were to be borne by the State governments. Many states showed their willingness to implement the programme. A programme for Central Government assistance for MDM for children of primary schools throughout the country was considered again during 1984-85. In 1988 the Department of Education formulated a proposal for providing MDM in blocks covered under Integrated Child Development Scheme (ICDS) In 1990-91, 17 State Governments were implementing MDM programme for primary school children between the age groups 6-11 with varying degrees of coverage. Twelve states, namely Goa, Gujarat, Kerala, Madhya Pradesh, Maharashtra, Meghalaya, Mizoram, Nagaland, Sikkim, Tamil Nadu, Tripura and Uttar Pradesh, were implementing MDM programme with their own resources Three states of Karnataka, Orissa and West Bengal implemented the programme partly from out of their own resources and partly with the assistance from CARE. Two states of Andhra Pradesh and Rajasthan were running the programme with only assistance from CARE but discontinued on stoppage of this assistance The MDM progamme got a major boost with the announcement of Government of India decision during Finance Minister's budget speech in 1995-96 to participate in a big way in the phased expansion of the nutritional support for education. A Committee was constituted under the Chairmanship of the Union Education Secretary to work out a scheme to operationalise the MDM scheme, which was launched on August 15, 1995 as a consequence. The Committee's recommendations introduced uniformity in the execution of MDM programme wherein the Central Government shared the cost of implementing the nutritional support for elementary education by providing required food grain from Food Corporation of India (FCI).

1 4.5 The remaining three incentive schemes, namely, Free Uniform, Free Textbooks/Notebooks and Attendance scholarship for girls do not have as wide implications as that of MDM programme. These incentives are meant for attending school regularly and for improving academic status only.

1.5.0 Review of Related Literature

1.5.1 According to the World Bank report on the primary education in India (W.B, 1997), the school incentive programmes in all the states account for about 5 per cent of the total expenditure on elementary education, which is equivalent to more than twice the combined expenditure on furniture, educational materials, minor renovations, school stationery and activities related to inspection and in-service training. In spite of so much importance being given to these programmes there seems to exist very little evidence on the efficiency of these programmes or their effectiveness in improving the enrolment and retention rates Previous assessments have mainly been confined to only MDM programmes except two field studies conducted in Haryana and Maharashtra by Sharma, Ramakrishanan and Seth (1995a, 1995b) and field experience of Sinha (1998). Even on MDM programme the evidence of its impact has been reported in the three studies by Devadas and Radharukmani (1966), Saxena and Mittal (1985), and Rajan and Jaikumar (1992). Besides these studies in the Indian context, there are some studies conducted in the international context to investigate relationship between nutrition and education. Saxena, Singh and Gupta (1996) attempted to study the impact of incentive schemes on pupil's achievement A review of these studies is presented below.

1.5.2 The study on "Efficiency and effectiveness of school incentive programme in Haryana" by Sharma, Ramakrishanan and Seth (loc.cit) covers the communities surrounding 15 schools in the three districts of Haryana (Hissar, Sirsa and Jind) The incentive schemes included in the study were textbooks, uniforms, stationery, and scholarships The study involved teachers, community, parents of children in schools who were receiving or not receiving incentives, and parents of children who were not in schools. The study concluded that the delivery of the incentive programmes differs considerably between districts and between schools within districts. Both teachers and parents were uncertain about who was entitled to the incentives and who received them The study has further found some gap between the number of beneficiaries given in the school records and those reported by the parents. Further, incentive schemes did not provide conclusive evidence with regard to increase in enrolment and attendance and reduction in drop out. The study reports discussions with 29 focus groups to elicit views about the nature of trade-off between incentives and other methods to encourage higher enrolment and retention. In each case the alternative offered to an incentive received majority votes.

1.5 3 The study on "Efficiency and effect of school incentive programme in Maharashtra" by Sharma, Ramakrishanan and Seth (loc cit) covered three districts of Maharashtra by involving teachers, community and parents of children enrolled in schools and also out of schools The study evaluated the impact of free textbooks, stationery, free uniform and attendance allowance The study indicated that there were considerable differences between districts and between schools within the same district with regard to number of beneficiaries. It further pointed out that small schools appeared to be better served than the larger ones. The general opinion was that the quality of the materials in the incentive programme was reasonable but that both the quantity and timeliness of delivery are not. It further reports that the incentive programmes appear to have both strength and weakness. Both teachers and parents stressed the need to shift the criteria for inclusion away from the caste and toward economic status. In this field study also, community groups were questioned about trade-off between various incentives and alternative methods of improving school outcomes. The items that were given priority were good teachers and free textbooks, followed by good buildings having toilets.

1.5.4 Sinha's (1998) observations on the working of various incentive schemes in the country are based on his extensive field trips to twelve states, namely, Rajasthan, Tamil Nadu, Maharashtra, Madhya Pradesh, Uttar Pradesh, West Bengal, Assam, Andhra Pradesh, Bihar, Orissa, Haryana and Punjab According to him the gender gap continues to be quite substantial as "The participation of girls even at the primary stage has been found to be unequal compared to boys of the same age." For improving participation of girls 'non-educational' incentives for girls have been in the form of mid-day meals and supply of free school uniform Most of the schools provide free textbooks to girl students Resources allocated for providing books are insufficient to meet the requirement. The efficiency of this incentive gets considerably reduced because of delay in printing of textbooks. The provision of uniform has also been inadequate and untimely. He found that West Bengal has been providing free textbooks to all children while in most of the states all Scheduled Castes, Scheduled Tribes and girls studying up to certain stage are provided free textbooks. The scholarship often comes late and some scholars doubt the effectiveness of such an intervention when it is received after the examinations are over. He found that Himachal Pradesh had a comprehensive programme of scholarships for tribal children of Lahul, Spiti, Kinnaur and Chamba districts, sufficient enough to support them in a hostel Tamil Nadu's programme of noon-meal integrated nutrition programme as a 'non-educational' incentive has been commendable. "The provision of footwear in Tamil Nadu has also been unique for school going children as it gives a very clear social message " He feels that national mid-day meal for all schools is not necessary to allure pupils to school. For example, in Punjab or Haryana provision of Mid-Day Meal may not necessarily improve girls' participation in education but in a backward tribal district like Raigarh in Madhya Pradesh with rampant malnutrition this intervention is bound to make a difference. Like other interventions for improving participation of children in education, food should be made a contextual intervention based on local felt needs He opined that the local community and the school headmaster should have autonomy in determining the incentives that they would like to have in their schools.

1.5 5 Malhotra in her article entitled "A study of Enrolment, Attendance and Retention in Primary Schools in Relation to Incentive Schemes," which appeared in the Research in Primary Education Vol 1-Research Abstracts (1997-98), (SIEMAT, Allahabad), has attempted to determine the impact of the two incentive schemes "Poshahar" and scholarships to SC students by comparing the enrolment, attendance and retention of primary schools where these incentives are available with those where no incentive schemes are in operation The study was confined to sixteen villages of five selected Blocks of Allahabad district This study reveals that the enrolment of schools having incentives is higher than that of those without incentive schemes However, the situation is quite opposite in case of attendance as the schools without incentive schemes excel over those with incentive schemes. Retention is also found to be higher in schools without incentive schemes However, retention of SC students is found to be higher in schools with incentive schemes. These schemes have helped in increasing the enrolment of SC students. On the basis of interviews with students, Headmasters, parents and Village Headmen they found strong suggestion for daily cooked meals or snacks instead of three kilograms of food grain Some respondents have even suggested provision of free uniform, free textbooks and free coaching in place of the two incentives under reference.

1.5.6 The PROBE (1999) team has found informal evidence in favour of school meal programmes. They have boosted school, feel a majority of the teachers, in areas where these programmes are operational Parents also share this view. School meals prove effective in promoting enrolment, provide incentive to parents in the form of a subsidy and to children as an attraction for a free meal Besides, the school meals are meant to serve a nutritional and socialisation purpose. A simple meal is likely to improve the nutritional status of children, besides removing pangs of hunger, which are unlikely to make children good learners Socialisation through common meals helps remove class and caste barriers, the importance of which can be seen in the opposition of upper-caste in some villages to the provision of school meals. In the PROBE states "dry rations" are distributed to children at the rate of 3 kg wheat under the national MDM introduced in 1995 The rations are meant for students with at least 80 per cent attendance but in practice the ration is distributed to all enrolled children Adherence to attendance criterion has invited quarrels with parents. Dry rations have encouraged enrolment rather than attendance. They are worthless in terms of socialisation and nutrition. A serious problem with dry-ration system is that the promised monthly rations fail to materialise Supply failure and delays are the bane of the scheme. "And when the food rations are actually distributed, it is usually at the end of a long chain of corruption and red tape." Parents complained that they received much less than the promised 3 kg of food grain. Dry ration was an interim arrangement, but till this date it has not moved beyond this stage. Bihar has discontinued the programme instead of improving it. One senses a lack of conviction in this initiative and appears to be more of political 'gimmickry' rather than considered planning. Reliable arrangements are needed for timely release of food quotas. The problems in operation of school meal notwithstanding, Kerala and Tamil Nadu have devised an efficient system for its operationalisation. The experience of Gujarat and some tribal areas of Madhya Pradesh, is also encouraging. The PROBE Team feels that school meals could go a long way towards removing parental reluctance to send children to school This applies particularly to girls Incentive schemes have been conceived by planners to motivate parents to send children to schools These incentives include mid-day meal, free textbooks and uniform. Most teachers in the PROBE states felt that these incentive schemes were of great benefit to disadvantaged children, in terms of boosting enrolment and attendance. Parents also shared this view. They affirm that the coverage of most of the incentive schemes is very limited and incentives are supplied in an erratic manner. Lack of timeliness in the provision of incentives is a common complaint. Nearly half of the 123 schools where scholarship scheme was in operation had received scholarship money for the current year several months after the classes had begun Delay of one or two years is not uncommon Not only was the timing erratic, the amount received was often far less than the amount due. Results of erratic supplies are particularly serious in the case of textbooks when these are received at a wrong time and in insufficient quantity. This breeds hostility between teachers and parents as the latter often suspect teachers of swindling scholarships and other incentives. On the other hand, ill-planned incentive schemes create extra work for teachers aggravating the problem of teacher shortage and excessive paper work.

1.5 7 Srivastava (1999) attempted to study the impact of incentive schemes on enrolment and retention of girls in primary schools of Rajgarh district of Madhya Pradesh For this purpose she interviewed principals of 10 selected primary schools and 30 parents to ascertain their perception on this matter besides discussing with them the problems and bottlenecks regarding implementation of each of the four incentive schemes. The study concluded that the incentive schemes would have positive impact on enrolment, attendance and retention of girls if regular and timely supply of these incentives is ensured

1.5 8 The study titled "School lunch programme: organisation and outcomes" by Devadas and Radharukmani (1966) reviewed the school lunch programme in India and other countries besides reviewing the nutritional status of children in India. In addition, the authors organised school lunch programme in the Avinash Lingam Basic School, Coimbatore (Tamil Nadu State) to assess the effects of the school lunch. They had a five month study on the nutritional and health status, nutrition education, food habits, social development, attendance of the 30 pupils of five to seven years of age in the school lunch group (experimental group). Their progress was compared with the 30 children (Control Group) of the same age and sex distribution who were not receiving the school lunch. The main findings of the study are as follows·

- The average weight gain and increase in height of the children in the School Lunch group was greater than those of the Control group during the experimental period.
- The percentage hemoglobin level and the RBC count of the School Lunch group were higher than that of the Control group at the conclusion of the experiment.
- Children in the School Lunch group obtained higher scores for general health status at the conclusion of the experimental period, than those of the Control group
- Children participating in the school lunch had established some desirable food habits during experimental period such as accepting new kind of food, eating protective food, and avoiding spilling

The study has clearly established significant and far-reaching effect of the school lunch programme in improving the nutritional status, nutritional knowledge, food habits, social development and attendance and performance in school.

1.5 9 The study "Impact of Mid-Day Meals Programme" due to Saxena and Mittal (loc. cit.) analysed district-wise total (boys and girls) and girls' enrolment separately in order to study the extent of influence of the CARE supported MDM programme in the thirteen states of the country In this study the effect of socio-economic and educational predictors were partialled out to estimate the contribution of the MDM Programme on change in enrolment. In addition to this, the block level enrolment in the states of Haryana and Karnataka formed the basis of analysis as a supplement to the district level analysis The study basically studied the change in enrolment at two points of time in both the cases. They found that high intensity of the MDM programme continued over a period of time in schools worked as an effective incentive, especially in the case of girls. The retention ratios in the MDM districts were higher than of the non-MDM districts. They found that textbooks had also a positive influence on the participation of girls at the primary stage

1.5 10 Rajan and Jaikumar (1992) studied the impact of noon-meal programme on primary education in terms of enrolment, attendance and dropout at primary stage on the basis of primary data from Nagercoil, Educational district of Tamil Nadu covering 17 schools. This programme was introduced by the then Chief Minister of Tamil Nadu in the rural area of the state from July 1,1982 providing daily a free-nutritious meal of 400 odd calories to 55.9 lakh poor children in the age group of two to ten years. The programme was popularly known as Chief Minister's nutritious noon-meal programme This programme was further extended to all pre-primary schools and elementary schools in the cities and towns all over the Tamil Nadu State from September 15, 1982. This programme was looked after by a high level committee headed by the State Chief Secretary The members of this committee were Director of School Education, Director of Social Welfare, Director of Municipal Administration and Commissioner of Cooperatives, Director of Adi-Dravidar and Tribal Development, Director of Backward Class, and Chief Conservator of forests. The District Collector was the overall in-charge of the programme in a revenue district To study the impact of the scheme on primary education, the data on enrolment, attendance and dropout were collected for the period ranging from 1978-79 to 1988-89 to understand the trends during the pre-post- programme periods. The average growth rate of enrolment in the post programme period had clearly confirmed that the enrolment had increased over the study period among the boys in the Government aided schools. In other types of schools, the data failed to provide a definite trend due to decline in enrolment, which was caused by drought or famine in the district The study has indicated a definite impact on attendance. It has also indicated improvement with respect to equality in the pattern among boys and girls It has further indicated that the growth rate of percentage dropout declined due to impact of the programme for boys and girls

1.5 11 Bhandari's study on "Mid-Day Meal : Effect on Enrolment and Retention at Primary Level" appearing in the Research in Primary Education Vol 1-Research Abstracts (1997-98) (SIEMAT, Allahabad) is based on a sample of three villages and one urban area from each of the two selected blocks of Sitapur district covering nine schools This study is based on the school records and interviews with students, teachers, parents, community leaders and dropout students There is a mixed reaction from all the respondents to this scheme. The main findings of the study are:

- There has been a sudden increase in enrolment in almost all schools since 1996
- Drop out rate in general has been observed to have declined since 1996.
- About 90 per cent school children were aware of the scheme; around 88 per cent had received some incentive. Dry ration was received by all, 26 per cent received scholarship and they belonged to SC/BC families and 13 per cent each received textbooks/note-books and pencil/rubber
- Most of the drop-out children belonged to large families and had been withdrawn from school because of poverty.
- The school going children displayed a positive attitude towards education and the teachers who imparted it to them
- Some malpractices were pointed out by the respondents, viz. (a) some parents sell the MDM foodgrains to purchase items like soap, clothes, etc. (b) the teacher charges Rs.3 for the MDM ration and children who do not pay do not get it (c) the MDM ration received is short in measure (d) sometimes there is a nexus between a teacher and a "kotedar" who resort to cheating (e) a student who is regular but on some reason is absent on the day the ration is distributed does not get her/his quota, and (f) the attendance criterion is not strictly adhered to

The study has also gone into the attitude of the teachers, parents and community leaders towards education, causes of dropping out and attitude towards incentives offered. The investigator observed that MDM is not a good enough motivator as the children lack other wherewithal at home. However, there are suggestions for variants to dry ration like biscuits, fruit, etc.

1.5.12 Barua (1999) studied the problems faced by the schools in the implementation of the MDM scheme in Bhawanipur block of Barpeta district of Assam Under this scheme 3 kg of food grain are distributed to every child per month subject to 80 per cent attendance About 84 per cent of the headmasters reported that they had to face problems in the proper distribution of cereals to students as the parents in rural areas started sending their under aged children to schools Besides, sub-standard quality and irregular supply of the food grain created added problems

1.5.13 Relationship between nutrition and education has been studied by Pollitt (1984), who found that iron repletion treatment to iron deficient children resulted in significant improvement in scholastic achievement. From the evaluation of school feeding programme in developed countries there is suggestive evidence that performance in reading and arithmetic tests was adversely affected by not taking breakfast. Low -calorie intake over long periods of time, results in reduction of activity levels, so important in any learning process. Reduction in activity results in loss of opportunities for learning. There is strong evidence that school- feeding programmes in developing countries result in increased attendance among recipients. But according to the author there is no conclusive evidence from developing countries that school-feeding programme has specific educational benefits such as improvement in achievement or higher concentration.

1.5.14 Levinger (1994) concluded on the basis of literature and empirical evidence that impact of School Feeding Programmes on nutritional status can be seen through its impact on attendance and achievement Poor children cannot afford to bring food from home to eat during lunch. Such children are easily distracted in the classroom and have problem in staying alert and concentrating on their lessons This is corroborated by Lockheed et al (1991). "Short-term hunger" effects children's cognitive functions and consequently their learning achievements. School feeding programme besides its nutritional importance acts as an incentive for parents to enrol their children in schools and for children to attend it regularly

1.5.15 Saxena, Singh and Gupta (loc. cit) in their study, "School Effectiveness and Learner's Achievement at the Primary Stage" studied the impact of the incentive schemes on pupil's achievement in mathematics and language in districts of eight states covered under the DPEP programme by using the data of Base Line Assessment Survey, conducted during 1993 They used Multi-level Cross Sectional Design which is described with the help of two sets of regression equations, that is, pupil level and school level. The study has shown that the provision of mid-day meal in schools has impact on language achievement only whereas supply of free textbooks has shown positive impact on both mathematics and language achievement in Madhya Pradesh The girls' attendance scholarship has also indicated positive impact on both the achievements in the state of Kerala whereas the same incentive has indicated impact on language achievement only in Assam The mid-day meal scheme in Madhya Pradesh provided statistically significant evidence in the reduction of gender gap in achievement of both subjects The scheme of free textbooks in Orissa has contributed positively in the reduction of gender gap in both the subjects.

1 5.16 The role of textbooks and other teaching materials has been evaluated in a number of studies by Fullar and Heyneman (1989), Lockheed et al. (1986), Heyneman et al (1984) and Hallak (1990). All these studies have confirmed that these teaching material inputs are directly linked with learning outcomes.

1.6.0 Conceptual Frame Work

1.6.1 The state governments and Union Territory (UT) Administrations had been framing their own educational policies prior to inclusion of education on the Concurrent list. Still educational policies and their execution strategy, especially with regard to incentives do vary from state to state. Further, 14 states and five UTs had a provision of light meals in schools as a means of improving the health of children prior to launching of the national MDM programme in 1995-96. This progamme and the other three incentives were taken up by the states and UTs at different points of time to enhance enrolment at primary stage The longitudinal data on states'/UTs' policies on incentives is not properly documented. Under this situation, an attempt was made to collect information pertaining to present policy on each of the aforesaid four incentives from the thirty-two states and UTs for the purpose of review of the policies on the incentive schemes.

1.6.2 Further, variation in girls' participation at the primary stage across states/UTs can be attributed to the socio-economic conditions, educational inputs and incentives to girls. It is, therefore, imperative to take these into account in studying the impact of incentives. Furthermore, there is a very wide variation in the size of thirty two states/UTs Clustering or stratification of states to control the heterogeneity in exploring the aforesaid multivariate relationship may not result into a workable proposition. Both these approaches will reduce the number of observations in each cluster/stratum. Thus, the number of observations in each cluster/stratum will be grossly inadequate to provide stable estimates In an attempt to resolve this problem, the states are assigned weights proportional to their population in the analysis for exploring the multivariate relationship. This analysis is based on the girl GER and gender parity index as criterion variables for the year 1997, which have been defined already In addition to these two criterion variables, percentage change in girl GER, and percentage change in gender parity over 1991 to 1997 have been used to study the impact of the national level MDM programme launched during 1995-96 under the Nutritional Support Programme in all the states and UTs.

1 6.3 The data from multiple secondary sources have been used to undertake the above state level analysis of girls' participation at the primary stage of education. These data were available for different points of times. For example, the socio-demographic data from population census pertained to 31 3 1991 and educational input to 30.9.1993 Projection of these data to the date of reference of criterion variable 30.9.1997 would have contained an unknown amount of measurement errors in all the predictors. These errors are capable of vitiating the inherent relationship to a great extent in multiple regression analysis Therefore, projection of predictors has been avoided to provide more stable results

1.6 4 The problem of girls' participation in education is quite serious in rural area and similarly the execution of incentive schemes. It is, therefore, proposed to confine the field study to rural areas only. Therefore, the objective (ii) , given in paragraph 1 1.7, is to be attempted through a field study on a sample of rural primary schools of Uttar Pradesh and Tamil Nadu.

1 6.5 Of the four incentives, the scheme of Free Uniform and Attendance Scholarship for girls are not in operation in Uttar Pradesh. The Free Textbooks incentive has been introduced in classes I to V in 15 districts for SC/ST students and for girls only from 1998-99. The Mid-Day Meal programme was introduced in all the districts of Uttar Pradesh from 1995 under the National Nutritional Support Programme. In addition to these incentives, SC/ST and minority children are given a scholarship of Rs. 300/- per annum by the state Social Welfare Department without any condition of attendance. In the state of Tamil Nadu, all the students of classes I to V are covered under the scheme of Free Textbooks, Free Uniforms and Mid-Day Meal.

1.6.6 The major focus of the field study is on estimation of contribution of input and process factors to the variation in girls' participation. Input factors consist of home environment of children and process factors relate to school environment including incentives provided to children for attending schools. The output variables are (i) girls' retention, (ii) gender parity in retention, (iii) percentage of girls enrolled, and (iv) percentage of girls present on the day of visit of investigator to the school. Besides the input-process-output analysis, the qualitative aspects of implementation of the incentive schemes are also proposed to be included in this study.

1.7.0 Methodology of Phase I

1.7.1 The data on policies and practices pertaining to the above mentioned incentive schemes, except that of the national Mid-day meals, are not available from secondary sources. Data on this aspect have been collected from all the state governments and the UT administrations through a structured questionnaire. Most of the data requirement for the multivariate analysis have been met from the secondary sources.

1.7.2 It is proposed to decompose the input component into sub-components as under to maintain homogeneity and brevity of presentation. The indicators with their years of reference to be included in each sub-component are also given along side

(a) Socio-economic background of a state/UT in terms of 95th population percentile of monthly per capita expenditure in rural areas (1995), Length of metalled road per 10,000 sq. km. area(1995), Percentage of female agricultural labourers to the total female workers(1991); and percentage of SC and ST population to total population(1991)

(b) Financial inputs(1995-96) on elementary education in terms of Percentage of budgeted expenditure of education on elementary education, and per capita expenditure on elementary education

(c) Infrastructure facility(1993) in schools in terms of percentage of rural population served by primary sections, percentage of primary schools with *pucca* buildings; percentage of primary schools with lavatories exclusively for girls, percentage of primary schools with two or more teachers, percentage of female teachers in primary schools, and percentage of primary schools having sufficient usable blackboards.

(d) State policy on incentive schemes(1998-99) includes *target group*, sanctioned quantum of benefits per student per annum, percentage of expenditure on incentive schemes to total expenditure on primary/elementary education, coverage in terms of geographical areas, percentage of girl beneficiaries to total enrolment of girls.

1.7.3 As already mentioned in Section 1.6 0 the variables under output component pertaining to 1997 have been considered. These are girl Gross-enrolment ratio(GER), gender parity in GER (i.e GER Girls X 100/GER Boys) at primary stage; percentage change in girl GER from 1991 to 1997; and percentage change in gender parity from 1991 to 1997.

1.7.4 The data analysis was initially designed to explore the possibility of building composite indicators by examining their distribution and then undertaking discriminent analysis by splitting the states into two groups. This option was not practically feasible because of wide variation in the distribution of the indicators. The next option of using Principal Component factor analysis, a technique used for reducing the number of factors, also did not work because of inadequate sample size. Finally the path analysis was used which included weighting states proportional to their population and then standardising their values for zero mean and standard deviation to one before applying step-down multiple regression analysis. This analysis retained only those predictors which contributed to the variation in criterion variable in statistical sense.

1.8.0 Methodology of Phase II

1.8.1 In this phase, main focus is on the field study conducted in the states of Tamil Nadu and Uttar Pradesh. It attempts to estimate contribution of prevalent incentive schemes in the two states at the school level by partialling out the contribution of other correlates on participation of girls in primary schools.

1 8 2 Girls' participation in primary schools has been quantified at the school level with the help of the following indicators.

(i) Percentage of girls' attendance on the day of visit;
(ii) Percentage of girls enrolled in rural primary schools;
(iii) Girls' retention ratio in primary schools using restructured cohort method of UNESCO, and
(iv) Gender parity in retention in rural primary schools

Variation in each of the above indicators across schools in a state is analysed for estimating contribution of input and process factors. These analyses are based on the linear relationship among variables The input and process variables will include variables pertaining to incentive schemes also. The variables covered under this analysis are given in the following sections.

1.8.3 The school level independent variables used in the analysis are listed below:

(a) Input variables:

Percentage of girl beneficiaries to total enrolment under each incentive scheme, availability of facilities in schools(blackboards, *pucca* building and classrooms), percentage of women teachers, percentage of SC/ST children enrolled, multi-grade teaching, pupil-teacher ratio, and facility for medical check-up.

(b) Process Variables:

Execution of incentive schemes (timely supply of material, adequacy of quantity and of desired quality), teachers' attitude towards girls' education, supervision of teaching in schools, use of teaching aids by teachers, Community participation in school activity and participation in DPEP interventional programmes.

1.8.4 The student level variables are listed below:

(a) Input Variables:

Socio-economic background of family (father's occupation, father's and mother's educational qualification), parents' attitude towards girls' education, backward social class, receiving incentives or not.

(b) Process Variables.

Attending to household work, punctuality in school, reading habits, and participation of girls in co-curricular activities.

1.8.5 The information at student level variables has been collected from a sample of girls studying in the selected schools. The values of the variables are aggregated at the school level to indicate socio-economic and educational environment in schools.

1.8.6 In this phase also, the variables have been converted into suitable indices, Ordinal variables have been converted to ratio scale using Logit transformation and then ratio variables are standardised with mean zero and unit standard deviation at the state level.

1.8.7 The variables contributing to the participation of girls have been subjected to path analysis after studying inter-relationship between variables within groups and across groups.

1.9.0 Organisation of Field Work

1 9 1 Fieldwork cannot be successfully completed without the active support and co-operation of the state governments concerned Each of the two selected states was requested to lend the services of one of its senior officers on part-time basis to act as a Nodal Officer for administrative support in data collection In addition, the Field Adviser NCERT in each state provided academic support and control of field operation alongwith the national level team. The Nodal Officer was assisted by the District Elementary Education Officers in Tamil Nadu and Basic Shiksha Adhikaris in Uttar Pradesh. At the block level, 30 Block Education Officers, one for each block, worked on part-time basis to co-ordinate work on data collection and scrutiny at the block level. Actual field work was carried out by 30 teachers who worked as investigators for data collection from 10 selected schools, teachers, parents and Village Heads.

1.9.2 Separate self-coded schedules for data collection from schools, teachers, parents and Village Heads were developed depending upon state policy. These schedules were canvassed in the regional languages.

1.9.3 The project plan and execution strategy was discussed with the Nodal Officers Orientation programmes were conducted to explain concepts and definitions, method of data collection, etc to the field staff. The filled-in schedules were scrutinised for correct, consistent and complete information

1.10.0 Structure of Report

1.10.1 The present report presents review and evaluation of the four incentive schemes with the specific purpose of assessing their impact on girls' participation in primary education.Chapters two to four
cover the Phase I of the study while Chapters five to seven relate to Phase II.

1 10.2 Chapter two provides statewise review of each of the four incentive schemes with respect to target groups, criteria, implementing agencies, organisational structure, funding agencies, expenditure, coverage, etc. It provides an overview of variations across states with respect to policies and implementing strategies in the country

1 10 3 It is imperative to study the variation in socio-economic background across states and UTs alongwith the educational input provided by them Chapter three, therefore, covers this aspect and also attempts to estimate inter-relationship between pairs of various indicators developed to quantify these aspects. This chapter also provides the basis for undertaking further analysis of the data with the purpose of identifying predictor variables which contribute significantly to the variations in the criterion variables mentioned earlier in this chapter.

1 10.4 Chapter four takes into account the wide variations in the population of states and UTs and compensates for this variation by allocating weights to the predictor and criterion variables proportional to the population of the state Then a multivariate regression analysis, using the approach of path analysis, has been applied to identify the correlates of four criterion variables depicting the participation of girls at primary stage.

1.10 5 Chapter five has been devoted to the development of tools of data collection for the field study in the two selected states. It also touches upon the field work at the district, block and the school level besides sampling methodology, training of field staff, scrutiny and validation of data and analysis plan.

1.10.6 Chapter six intensively studies implementation of incentive schemes in the state of Tamil Nadu. It specifically covers the gap in the policy identified during the field study. It also presents the analysis of data collected This chapter attempts to identify different factors pertaining to childs' home background and school environment, etc which contribute to the variation in the girls' enrolment, attendance and retention The same data set of predictor variables is treated to study their contribution to the criterion variables. Chapter seven covers the same aspects as those deliberated upon in Chapter six based on the field study in the state of Uttar Pradesh.

1.10.7 Chapter eight provides summary of findings and conclusions.

CHAPTER TWO

Implementation Strategies of Incentives

2.1.0 Introduction

2.1.1 While discussing the problem of reducing the gaps in enrolment, retention and achievement, the World Bank report (W.B., 1997) on Primary Education in India has focussed on three important gaps in education in India, namely, the gender gap; the poverty gap and the caste and tribal gap. "International evidence", the authors say, "shows that education gaps narrow for two principle reasons; enrolment gaps close as the education system expands to provide access to all and achievement gaps (including differences in attendance and retention) close when education system targets interventions selectively In India the gender gap is due mostly to cultural and economic constraints and could be reduced through awareness campaigns, child-care centres, direct incentives, and hiring of more female teachers." According to them the caste gap is due, largely, to poverty. Therefore, 'welfare-based' interventions targeting Scheduled Caste students may prove to be efficient. Tribal gap stems from a complex combination of economic and cultural factors for which 'welfare-based' and 'non-welfare-based' interventions focussing on both economic and cultural factors will be appropriate instead of only 'non-welfare-based' interventions focussing on cultural factors

2.1.2 Poverty gap is a significant contributor to enrolment gap between boys and girls. Parental economic condition determines whether a child is to be sent to school and how long she/he should study. Thus, children from poor sections of society are educationally disadvantaged Poor parents cannot afford direct and indirect cost of children's education and forgo the opportunity.

2.1 3 In order to provide some economic relief to the disadvantaged sections of society interventions in the form of various incentive schemes have been introduced for admission and retention of children in schools from time to time by the Central and State governments. There is a lot of variation from state to state in the implementation of the four incentive schemes covered in this study. Therefore, it is worthwhile to study the state policies and practices on these incentive schemes. This chapter discusses separately each of the incentive schemes wherein emphasis is on the policies and practices adopted by the states/UTs. These confine to similarities and dissimilarities with respect to the following aspects

(i) Target groups
(ii) Criteria for selection of target groups
(iii) Implementing agencies
(iv) Organisational structure/mode of execution
(v) Funding agencies
(vi) Budgeted expenditure
(vii) Quantum of benefit per child per annum
(viii) Coverage
(ix) Linkages with other welfare schemes
(x) Role of non-governmental agencies
(xi) Mechanism for monitoring and evaluation
(xii) Problems

2.2.0 Mid-Day Meal Programme

2 2 1 Lockheed and Verspoor(1991), while reviewing the role of health in promoting student achievement, report that several studies have explored the relationship between children's nutritional status and school indicators like age at enrolment, grade attainment, absenteeism, achievement test scores, general intelligence, and performance on selected cognitive tasks including concentration in the classroom. It is found that protein-energy malnutrition, temporary hunger and micro-nutrient deprivation adversely affect achievement. It is generally agreed that these three types of deficiencies can easily and efficiently be treated in schools. MDM is the most commonly applied intervention for the first two deficiencies as supplementary feeding. They argue that providing school lunches, rather than breakfast or snacks, is of questionable value This may be true when there is some semblance of breakfast to a child at his home But when the child comes to school on an empty stomach, the effect of hunger can better be imagined than put in cold words

2 2 2 The efforts of the Committee on MDM (MHRD, 1995a) did introduce a lot of uniformity in the execution of the MDM programme wherein the Central Government shared the cost of implementing the nutritional support for elementary education by providing required food grain from the FCI. However, each state was free to have its own specific scheme with appropriate infrastructure and delivery system

2.2.3 There are three main options for the delivery of nutritional support. (i) supply of hot meal, (ii) pre-cooked food and (iii) food grain . The hot-meal hygeinically prepared on sound nutritional principles could prove to be most satisfying to rural communities and result in best outcomes. Its success depends on appropriateness of logistics and continuous monitoring of operations. The Committee felt it reasonable to expect that only a part of the food grain supplied would be available to school going children. Though this is not desirable but its merit lies in its being a strong economic incentive to the family to send the child to school. Working on the assumption that only 50 per cent of the food grain supplied to a family will be received by a child which covers 70 per cent of calorific gap, a supply of 5 kg per child food grain to a family for ten months would be equivalent to the supply of 100 gm per day per child for 200 school days under option (iii).

2 2.4 In most of the States food grain is supplied to the beneficiaries. West Bengal, Chandigarh and Delhi supply fruity bread, whereas cooked meals are served by Gujarat, Jammu & Kashmir, Kerala, Orissa, Tamil Nadu, Dadra & Nagar Haveli, Daman & Diu and Pondicherry.

2.2.5 ***Year of Launching:*** The Report of the MDM Committee (MHRD, 1995a) has discussed in detail the development of the scheme to show how the scheme evolved in the country On the recommendations of the Committee, the MDM scheme in the present form was uniformly introduced in all the states/UTs during 1995-96 as stated earlier. Most of the states, as is evident from figure 2.1 informed that the scheme was introduced in 1995-96. Some states like Goa, Gujarat,Tamil Nadu,West Bengal, Chandigarh, Lakshadweep and Pondicherry, had this scheme even earlier

Figure 2.1
Year of Launching Mid-Day Meal Scheme

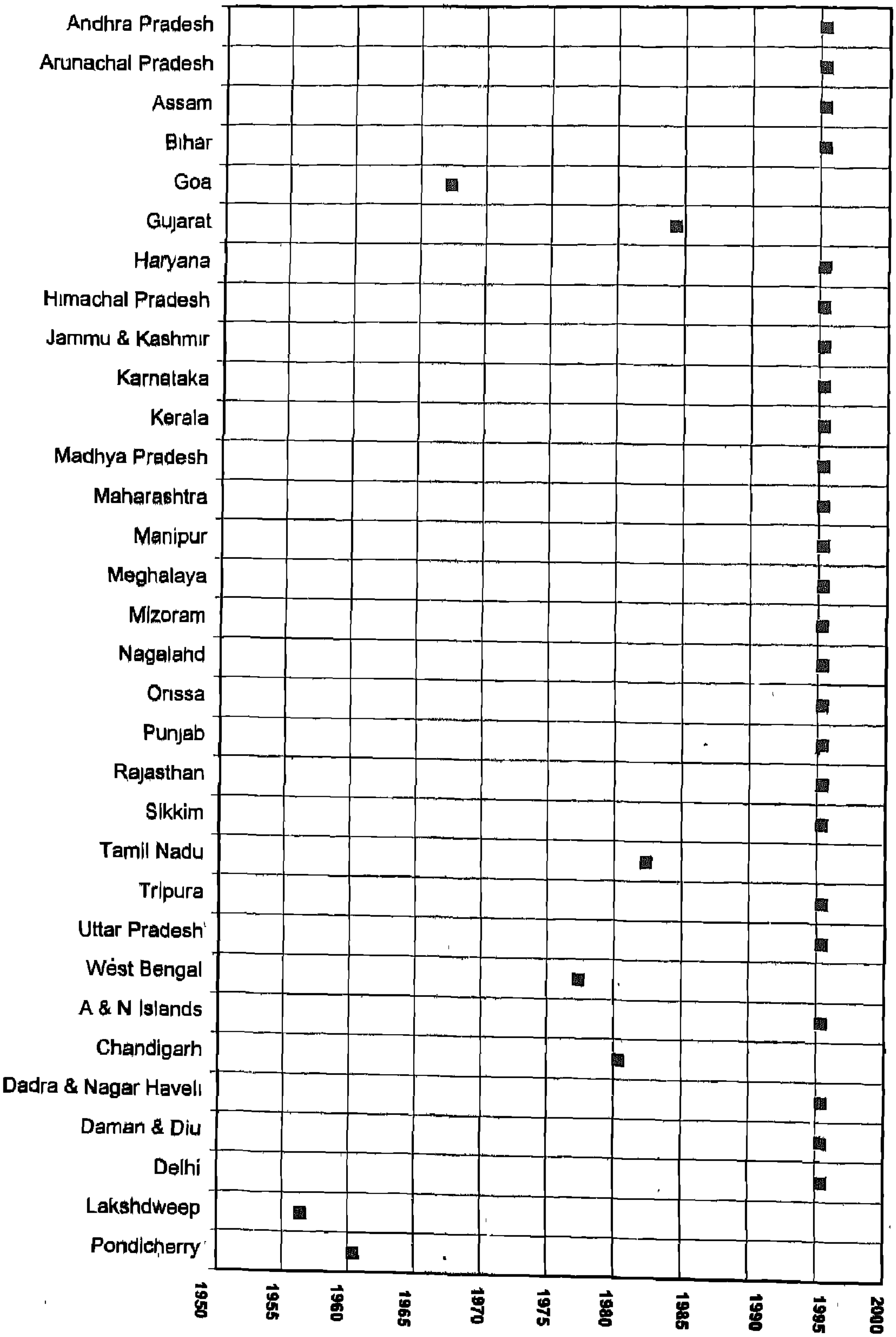
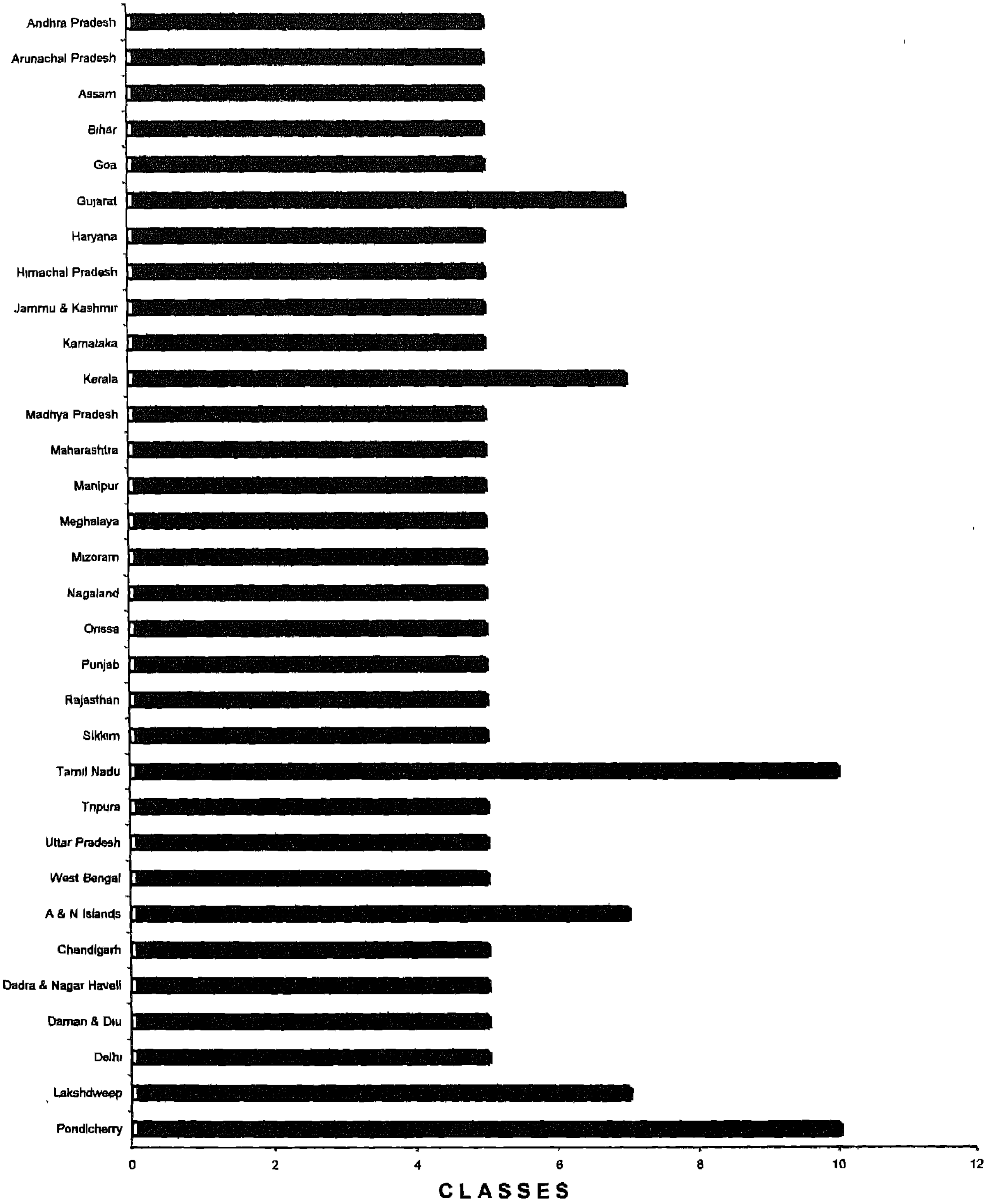


Figure 2.2
Target Groups under Mid-Day Meal Scheme



2.2.6 Target Groups: There is no gender bias in implementation of this scheme as can be seen from Figure 2.2. Both boys and girls studying in primary classes in government and local body schools are covered in 26 states/UTs. However, students of classes I-VII are covered in Gujarat, Kerala, A&N Islands and Lakshadweep, while Tamil Nadu and Pondicherry cover all the students of classes I-X

2.2.7 Criteria: The attendance criterion for MDM proposed by the aforesaid Committe is 80 per cent but there is an exception like Gujarat where it is fixed at 70 per cent As per various measures envisaged by the Government of India during the Seventh Five Year Plan, all children in primary classes (inclusive of class IV or V as the case may be) in government aided and local body schools should be covered under this scheme There are variations in the types of schools covered under this scheme as fixed by the Government of India. For example, private schools are also covered in the state of Tamil Nadu.

2.2.8 Organisational Structure: The Report of the Committee on MDM (MHRD, 1995) has not suggested establishment of a separate administrative infrastructure for the management and implementation of this scheme. The existing administrative infrastructure is being used with suitable delegation of powers. As such no separate staff is provided for the purpose at different levels of administration. However, the study reveals that there are officers identified for efficient execution of this programme at State, District and Sub-district levels, in most of the states The Committee recognised coordination, supervision, monitoring and evaluation to be of paramount importance for the success of MDM programme, for which it suggested that the supervisory functionaries at the sub-district level should hold monthly meetings to review performance and plan future activities in this regard. In this, Panchayat organisations should also be involved. They felt that SDOs and BDOs could play a useful role in making these meetings effective by bringing about greater coordination and by highlighting thrust areas. The women Panchayat members may be actively associated with the supervision of implementation of the programme. The Collector should co-ordinate all activities at the district level. A district level committee should be set up under his chairmanship with district level officers of the concerned departments. This committee should meet at least once a quarter to review the progress of the MDM programme, its planning and implementation.

2.2.9 Implementing Agency: The organisational structure is such that the State governments themselves become the implementing agencies Under the programme of nutritional support to education introduced in 1995 the Department of Education is to be the nodal agency for implementing the programme at the Central level while the State governments were free to designate an appropriate department, preferably Education to be the nodal agency. However, some variation is observed in some states as pointed out below

Andhra Pradesh - This state has constituted Mandal and District level committees for effective implementation of the scheme which are chaired by the Mandal Presidents (Chairmen of municipalities in case of municipal areas) and District Collectors

Assam - Panchayats and Nagar Palikas are the implementing agencies, which distribute food grain through cooperatives and fair price shops.

Haryana - Director of Primary Education at the state level and Commissioners at the district level through Department of Rural Development and Agriculture(DRDA), are the implementing agencies Village Education Committees (VECs) have been constituted for distribution of food grain at the village level

Maharashtra - The Education Department, Government of Maharashtra is the nodal Department responsible for funding and control. One Accounts Officer is provided in the office of the Education Officer (Primary) for coordination at district level. The Education Officer (Primary), Zilla Parishad, is incharge of the scheme. A district level committee consisting of District Collector as Chairman, District Supply Officer as member and Education Officer (Primary) as Member Secretary monitors the progress of this scheme every month. The bills for subsidy for transport are to be reimbursed through DRDA where Chief Executive Officer is incharge. The responsibility of receiving food grain from FCI godown, repacking in 3 kg polythene sealed packets, distribution of food grain through transporters, etc., is entrusted to Food and Civil Supplies Department.

Punjab - The scheme is implemented by Collectors/DCs through DRDA

Rajasthan - The scheme is implemented by Rural Development Department with the help of District Education Officers (DEOs) (Elementary) and Senior Deputy DEOs of Zilla Parishads or the Nodal Officers of the Rural Development Department.

West Bengal - District Inspector of Schools (Primary Education), School Meal Officers and Sub-Inspectors of Schools (Nutrition) are responsible for implementing this scheme.

Dadra and Nagar Haveli - District Panchayats implement the scheme in this Union Territory

2.2.10 Sanctioned Quantum of Benefit: The Committee on MDM (MHRD, 1995a) felt that the cereal component could be about 100 gms. per day, which would provide roughly 60-70 per cent of the calorie deficit. With its exacting logistical requirement and operational demands, a little hassle free variant to hot-meal is pre-cooked meal supplied to the students in some states, e.g supply of bread in Calcutta, of bread/bun/roasted gram in Delhi and Chandigarh

The sanctioned quantum of benefit in rupee terms has not been reported by most of the states since under the National Programme for Nutrition Support to Primary Education (NPNSPE) food grain is supplied by the Government of India at the rate of 3kg per student per month.

2.2.11 Coverage: In most of the States all the districts and blocks are covered under this scheme, exception being Arunachal Pradesh which covered eight districts, Punjab with fourteen districts, and West Bengal seventeen districts. Maharashtra implements this scheme in rural areas leaving municipalities.

2.2.12 Monitoring and Evaluation: The Committee on MDM (MHRD, 1995a) recommended formation of a coordination committee at the state level with Secretaries and the Heads of Departments concerned under the chairmanship of Chief Secretary/Senior most Secretary. At the Central level there should be a Monitoring Committee under the Chairmanship of Education Secretary to be represented by all concerned ministries and the Planning Commission. The Committee should meet periodically to review the implementation of the scheme and to plan follow up action Review meetings with the State Education Secretaries are also to be held from time to time by the Union Education Secretary Independent agencies may be involved at the Centre and State level for evaluation of this programme. The Committee recommended an efficient Management Information System (MIS) that can ensure flow of information from district to state and from state to Centre Some mechanism for monitoring and evaluation of this scheme has been developed by a large majority of States and Union Territories. There are certain variations in the system of monitoring and evaluation and some of the states given below have developed their own scheme of monitoring and evaluation.

Andhra Pradesh - In order to monitor the implementation of the programme MIS formats developed have been supplied to Collectors and DEOs These formats provide for collection of data on enrolment, number of eligible beneficiaries and quantity of food grain allocated and quantity lifted from FCI godowns and quantities utilised by schools.

Assam - Local bodies/authorities set up committees such as VECs for monitoring and evaluation. At the district level the monitoring committee is chaired by the DM/DC. Besides concerned Education Officer the other members of the committee are all MPs/MLAs of the district, Chairman of the District Board, Chairman of Municipal Corporation, District Supply Officer, etc. At the state level, the monitoring committee is chaired by the Chief Secretary whereas other members are Secretaries of Rural Development Department, Welfare Department, Health Department, Food and Civil Supplies Department and Secondary and Adult Education Department.

Haryana - For supervision and monitoring of the scheme the following three committees have been constituted

(a) State level Committee under the Chairmanship of Chief Secretary,
(b) District level Committee under the Chairmanship of Deputy Commissioner, and
(c) Village Education Committee.

Overall monitoring of the scheme by the State governments at the secretariat level, notwithstanding, monitoring is also done at various levels of administration at district, block, school and community levels.

2.2.13 Linkages: The Committee on MDM (MHRD, 1995a) envisaged a strong linkage between primary education and primary health centre network to cater for the basic health care needs of children. It is to be perceived as a part of a comprehensive package bringing together health, nutrition, early childhood care and primary education. There appears to be hardly any linkage of this programme with other welfare programmes such as Jawahar Rojgar Yojana (JRY), ICDS, CARE or Expanded Nutrition Programme However, only two states namely Orissa and Tamil Nadu have reported some linkages with other programmes Orissa reports that funds for the remuneration of cooks are provided by JRY and other food materials are supplied by CARE. In Tamil Nadu the Noon-Meal Centres and kitchen sheds are constructed under JRY and EAS schemes.

2.2.14 Role of NGOs: The Committee on MDM (MHRD, 1995a) felt that, creation of large governmental cadres, whatever they be, is undesirable; therefore alternatives should actively be explored. These include entrustment to NGOs, DAWCRA Groups, dovetailing with ICDS, VECs, Panchayats, PTAs, etc. as the NGOs can play an active role in overseeing the programme The role of NGOs appears to be missing in the country. However, Kerala has reported that PTAs are helping in the implementation of the programmes and the NGOs like Rotary Club and Lions Club help by providing infrastructure like kitchen sheds, utensils etc in a few schools while CARE provides some food material for this scheme in the state

2.2.15 Budgeted Expenditure: This is a Centrally sponsored scheme. The state-wise allocations of food grain are made through FCI. The transportation and handling expenses are initially met by the state governments, which are reimbursed to the states by the Centre. On the basis of the quantities of food grain allocated to the states at the rates applicable for the year 1995-96, the estimate of percentage of expenditure on MDM food grain to the total expenditure on elementary education in the country works out to 3.30 Among the states it ranges from 0.12 in Goa to 7.41 in Andhra Pradesh In case of UTs the range is from 0.35 (A&N Islands) to 7.50 (Delhi). Table 2 1 gives statewise position of the budgetary expenditure, which has also been depicted in Map 2.1.

2.2.16 Problems: Implementation of such an ambitious and countrywide programme is bound to encounter problems in its execution but not many States have explicitly said so Some of the States have, however, reported problems in implementing the scheme These are described as under:

Andhra Pradesh - The Government of India allocates food grain to the districts before the beginning of an academic year on the basis of enrolment of previous year. There is increase in enrolment from year to year. Consequently, newly enrolled students are deprived of the benefit. The state suggests that allocation may be revised in the second quarter of every academic year keeping in view additional enrolment.

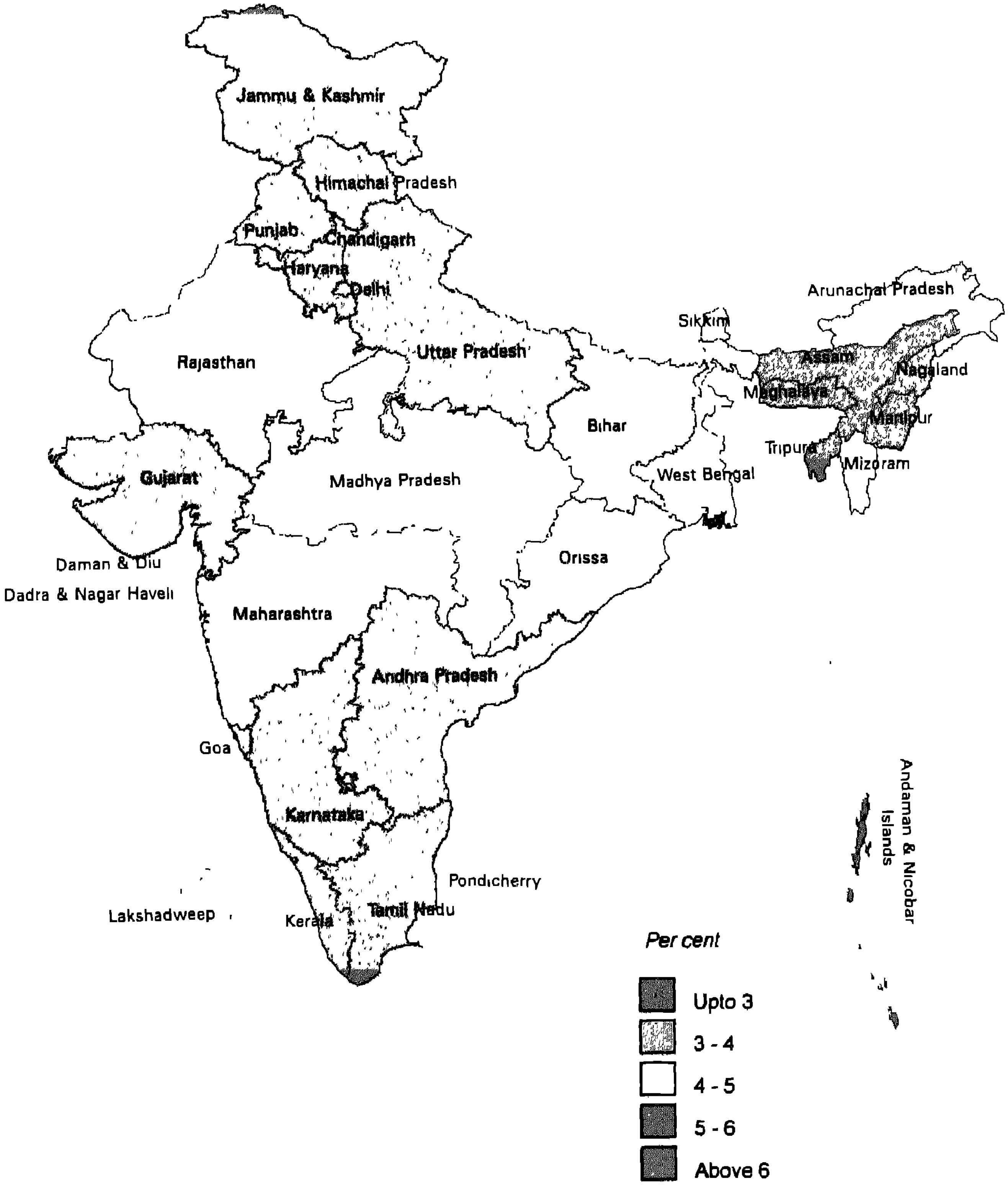
Arunachal Pradesh - Arunachal Pradesh reports that out of thirteen districts only eight districts have been covered. Remaining districts are not able to implement this scheme because of poor road communication, low rate of transportation charges and non-payment of transportation charges and other bills. The rate of transportation charges approved by the Government of India is inadequate for hilly areas Consequently, local transporters are reluctant to transport the food grain from FCI stores to different places in the state The transport charges are not reimbursed timely and the bills are kept pending

Table 2.1
Cost of MDM Food Grain Allocated to States as Percentage of Expenditure on Elementary Education (1995-96)

Sl No	*State/UT*	*% Expenditure*
1.	Andhra Pradesh	7.41
2	Arunachal Pradesh	3.65
3.	Assam	5.56
4	Bihar	3.84
5.	Goa	0.12
6.	Gujarat	1.87
7	Haryana	2.05
8	Himanchal Pradesh	1.43
9.	Jammu & Kashmir	2.69
10.	Karnataka	5.95
11.	Kerala	0.48
12	Madhya Pradesh	4.51
13.	Maharashtra	3.01
14.	Manipur	2.21
15.	Meghalaya	5.33
16	Mizoram	4.05
17.	Nagaland	2.29
18	Orissa	3.36
19	Punjab	2.39
20.	Rajasthan	3.89
21.	Sikkim	3.80
22.	Tamil Nadu	1.29
23	Tripura	7.21
24.	Uttar Pradesh	1.95
25.	West Bengal	4.44
26.	A&N Islands	0.35
27	Chandigarh	5.30
28.	Dadra & Nagar Haveli	4.82
29.	Daman & Diu	2.93
30.	Delhi	7.50
31.	Lakshadweep	1.78
32.	Pondicherry	2.09
	All India	3.30

Source: (1) Information received from states/UTs
(2) Mid-Day Meals Division, Department of Education, MHRD
(3) Analysis of Budgeted Expenditure on Education 1994-95 to 1996-97. MHRD, 1998b, p18.

Map 2.1 Cost of MDM Foodgrains Allocated to States as Percentage of Expenditure on Elementary Education (1995 - 96)



Jammu & Kashmir - The state reports that the implementation of this scheme is not as smooth as it should have been because of the problems in its implementation like non-reconciliation of accounts with FCI, non-lifting of food grain for want of storage facilities

Karnataka - The quantity of food for a particular month is not being lifted in that month. This is due to involvement of a number of Departments and agencies in lifting of food grain. In the event of a strike by the lifting agencies and "Hamalies" the lifting of supplies is delayed. Due to non-payment of cost of food grain by the Central Government, the FCI refused the sanction of food grain during July, August and September 1998. The collection of information from school level to state level takes considerable time. There is shortage in weight, misuse of foodgrains etc. at retail level. Fair Price shop owners lift the MDM scheme foodgrains along with PDS food grain. If the fair price shop owner delays the advance payment of PDS food grain then both the MDM as well as PDS foodgrains are supplied late FCI supplies the superior quality of foodgrains under the MDM scheme. Some fair price shop owners do not distribute this superior quality of food grain to the children. In some places, the fair price shop owners are misusing the food grain meant for the children. Many complaints have been received in this regard and action has been taken to recover the cost of food grain from the fair price shop owners.

Kerala - Kerala feels the problem of transportation.

Meghalaya - Meghalaya does not have adequate road communication for transporting food grain to schools.

Punjab - The state reports that this scheme is not appreciated by the villagers. Most of the time of the teachers is wasted in the collection of wheat and its distribution. The permit for the issue of the food grain is to be released by the District Collector in the name of nearest FCI godown and then wheat is transported from FCI godown to Block for distribution to students. A lot of time of teachers is wasted in the whole process resulting in hindrance in the discharge of their prime duty of teaching. This also results in loss of study hours of students.

Tripura - Problem of inadequate road communication is reported by the state.

2.3.0 Free Uniform

2.3.1 Nothing could give a deeper sense of inferiority than being ill-clad in a group of classmates. A deep sense of shame is likely to be created when one is in tattered clothes. A bare-bodied and bare-footed student gets an accentuated sense of frustration, more so when her/his clothing does not conform to the requirements of the climatic conditions of the place Modesty requires that a girl should have proper clothing and in a classroom situation proper clothing gives her confidence in the presence of her classmates. According to Kulshreshtha, Singh and Kolli (1998) about 36 per cent of Indian population lived below the poverty line in 1993-94 The average annual private expenditure per student at primary stage of education is Rs 501/- according to the 52nd round of NSSO (1995-96). With bottom low average Indian income this could be colossal in the face of over-riding priorities like food, clothing and shelter

2.3.2 Year of Launching: According to the information furnished by the states and UTs, 24 among them had the scheme(refer Figure 2.3) and the scheme was launched earliest in the state of Tripura (1960). Of these, two states, namely, Himachal Pradesh and Mizoram have not given the year of launching the scheme. Although the state of Arunachal Pradesh which had introduced this scheme in 1981, has discontinued it only in 1998 due to paucity of funds, the requisite data available for this state has been used. There are eight other states, namely, Andhra Pradesh, Assam, Kerala, Manipur, Nagaland, Punjab, Uttar Pradesh and Lakshadweep which do not have this scheme.

2.3.3 Target Groups: All students irrespective of consideration of gender and caste form the target group in the states of Goa, Jammu & Kashmir, Sikkim and Tamil Nadu While both boys and girls belonging to SC/ST categories are targeted in Gujarat, Maharashtra, Orissa, Rajasthan and Daman & Diu, only SC/ST girls form the target group in Bihar, Himachal Pradesh(from tribal area only), Madhya Pradesh(OBC girls also) and Tripura. Karnataka covered students both from all and SC/ST groups with different coverages. In Arunchal Pradesh, Scheduled Tribes of the state only are covered under the scheme Haryana (girls only}, West Bengal (girls only), Chandigarh and Dadra & Nagar Haveli concentrate on SC/ST and EBCs while Meghalaya(girls in rural areas only), Mizoram, Delhi and Pondicherry cover EBCs only In the UT of A & N Islands all EBCs as well as ST students are covered under this scheme. Statewise position is depicted graphically in Figure 2 4 where different combinations of SC, ST and EBC categories have been shown under SC/ST/EBC category

From Figure 2 4 it is clear that economically and socially deprived sections of the society are targeted through this incentive. The facility is limited to students of primary classes (I-IV/V) in 13 states/UTs. Students up to upper primary classes (I-VII/VIII) are also covered in nine states/UTs. Students up to secondary classes are covered in Daman & Diu and up to higher secondary classes in Delhi. . In Maharashtra there are two schemes. In the first scheme target groups are students of classes I-IV belonging to SC/ST from families below poverty line studying in Zilla Parishad Schools In the second scheme all the students of classes I-IV in Zilla Parishad schools of 103 low female literacy blocks are covered. Tripura does not cover the whole continuum up to upper primary stage but has truncated coverage from classes III-VIII.

2.3.4 Implementing Agency: Three-fourths of the states/UTs which have this scheme operationalise and implement it through their Directorates of Education. Departments of Social Welfare implement this scheme in Bihar, Gujarat, Orissa and Tamil Nadu. The UT Administrations themselves implement the programme in Dadra & Nagar Haveli and Daman & Diu. Madhya Pradesh provides funds to the M.P Rajya Bunker Sahkari Sanstha Maryadit which is the Nodal agency for the programme.

2.3.5 Organisational Structure/Mode of Execution: Cash incentive for purchase of uniform for students is given in only three states, namely Haryana, Meghalaya and Tripura. Unstitched cloth is provided by six states/ UTs, namely, Jammu & Kashmir, Karnataka, Mizoram, Chandigarh, Dadra & Nagar Haveli, Daman & Diu. Stitched clothes are provided by eight states, namely, Goa, Gujarat, Himachal Pradesh, Madhya Pradesh, Meghalaya, Sikkim, Tamil Nadu and West Bengal In Delhi shopkeepers are nominated for providing free uniforms to eligible students. The remaining six states/UTs have not given information on mode of

Figure 2.3
Year of Launching of Free Uniform Scheme

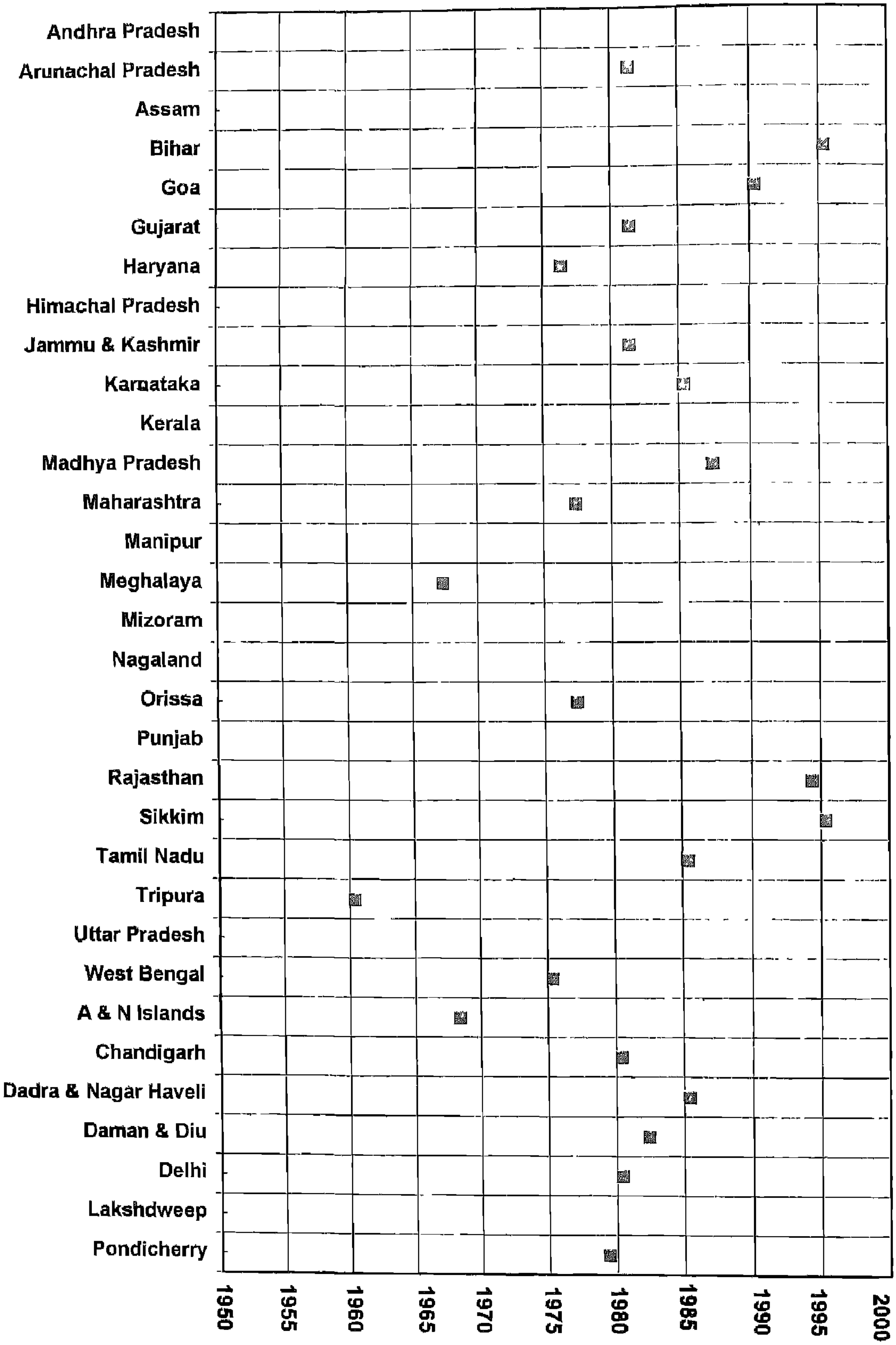
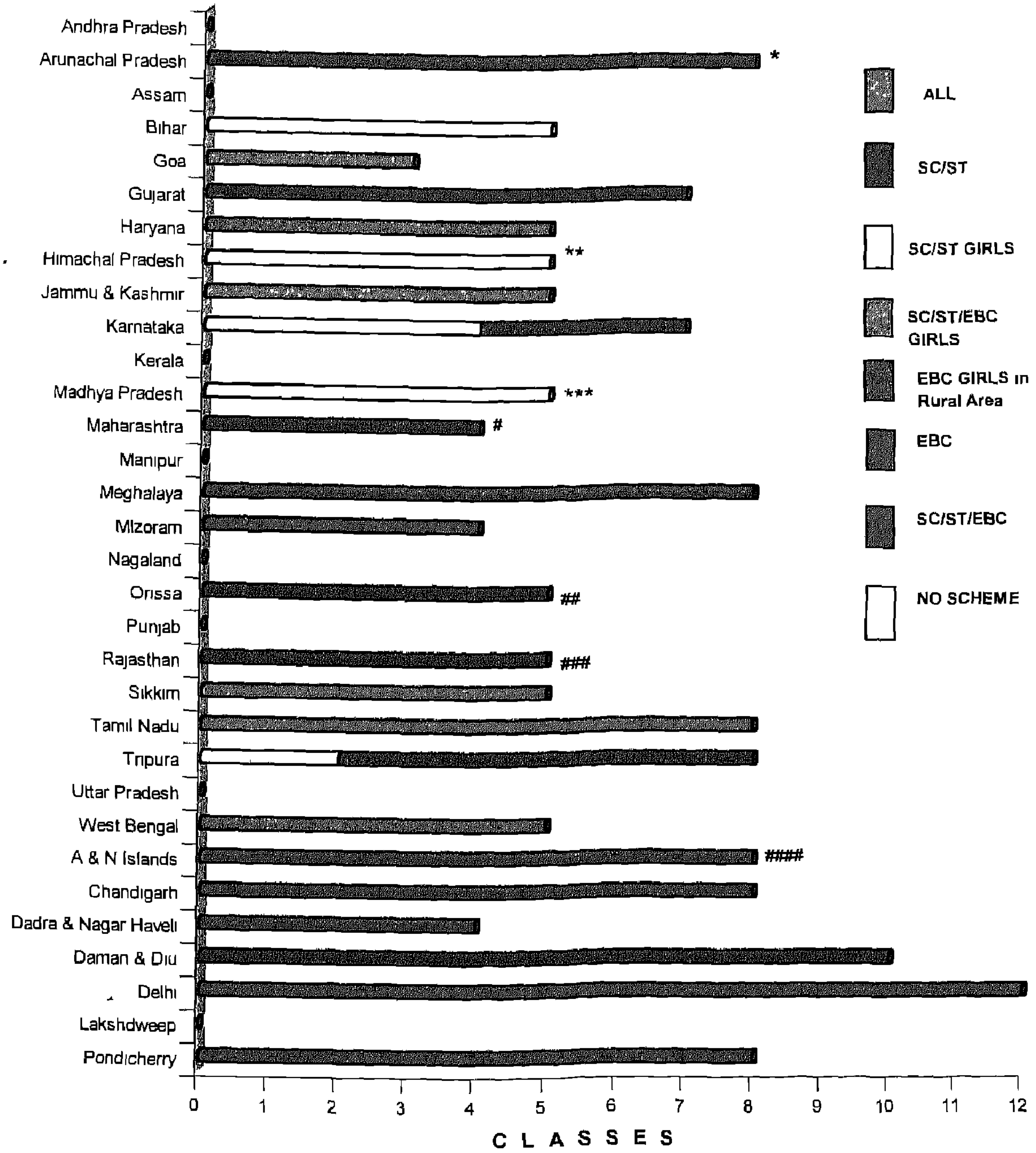


Figure 2 4

Target Groups under Free Uniforms Scheme



* In Arunachal Pradesh the scheme has been discontinued from 1997 - 98

** In Himachal Pradesh only tribal area girls are covered

*** In Madhya Pradesh OBC girls are also covered

# In Maharastra all students from low female literacy blocks are also covered

## In Orissa only SC/ST students studying in Tribal schools are covered

### In Rajastan SC/ST boys are also covered in 9 districts

#### In A & N Islands EBC and all tribal students are covered execution. There is a variation in organisational structure and mode of execution the details of which are given below:

Karnataka - The cloth for uniform is supplied by the two state government agencies, namely, Karnataka Handloom Development Corporation Limited and Karnataka Power Loom Corporation Limited. The Commissioner of Education, after getting the indent from District Deputy Directors of Public Instruction, places an order with the supply agencies These agencies supply cloth to the eligible children through the Deputy Directors of Public Instruction of the concerned districts

Madhya Pradesh - The 'Madhya Pradesh Rajya Bunker Sahkari Sanstha Maryadit' is the Nodal agency which provides funds for this scheme. Raw material i e. cloth and stitching etc. is provided to the schools by the Nodal agency Stitching is done by the students of classes 11th and 12th under 'Earn while you learn scheme'

Maharashtra - The Rural Development Department of Government of Maharashtra is responsible for the supply of uniform through Zilla Parishads This department fixes the agency and the rates per pair of uniform sets, for supply of cloth by open tenders. The school-wise lists of eligible students are prepared by the DEOs and uniforms are procured and distributed to the students in the presence of VEC members.

Orissa - Project Administrator Integrated Tribal Development Agency(PAITDA) is the agency through which Welfare Department of Government of Orissa implements this project.

West Bengal - This programme is implemented under the supervision of District Primary School Council (erstwhile District School Board)

2.3.6 Quantum of Benefit: There is a wide variation in the quantum of benefit per student per annum which ranges from Rs 40/- in Tripura to a maximum of Rs. 250/- in Bihar among the states. In the case of UTs, it varies from Rs. 150/- in Delhi to Rs. 450/- in Daman & Diu. The UT of A & N Islands has not supplied information on this item.

Table 2.2
Quantum of Benefit on Free Uniforms Per Student Per Annum

Benefit Per Student	*States/Union Territories*
Upto 50	Himachal Pradesh (Rs.50), Madhya Pradesh (Rs 45),Tripura (Rs.40), West Bengal (Rs.50)
51-100	Haryana (Rs.75), Karnataka (Rs.80), Maharashtra (Rs 80), Meghalaya (Rs 80), Orissa (Rs.100), Rajasthan (Rs.90)
101-200	Arunachal Pradesh (Rs.120), Gujarat (Rs 150), Jammu & Kashmir(Rs.137), Mizoram (Rs 140), Sikkim (Rs 200), Tamil Nadu (Rs.162), Chandigarh (Rs 200), Delhi (Rs.150)
201-300	Bihar (Rs 250), Goa (Rs.207), Dadra & Nagar Haveli (Rs.255), Pondicherry (Rs 215)

2.3.7 ***Coverage:*** The target groups of beneficiaries are covered in all the districts in Arunachal Pradesh, Bihar, Goa, Haryana, Jammu & Kashmir, Karnataka, Maharashtra, Meghalaya, Mizoram, Orissa, Sikkim, Tamil Nadu, Tripura, West Bengal, Chandigarh, Dadra & Nagar Haveli, Daman & Diu, Delhi and Pondicherry Himachal Pradesh covers only three districts while Rajasthan covers only nine districts In Maharashtra about 25% of the students in classes I to V are covered subject to the budgetary provision under the scheme 1 while under scheme 2 starting from class I in 1996-97 this facility was to be extended to next one higher class in each subsequent year. The states of Gujarat and Madhya Pradesh and UT of A&N Islands have not given information on this item.

2.3.8 ***Linkages:*** There does not appear to be any linkage with other welfare programmes except in Bihar where they have linked it with welfare schemes

2.3.9 ***Role of NGOs:*** Role of non-governmental agencies is absent in all the states and UTs.

2.3.10 ***Mechanism for Monitoring*** levels.:Some of the states have devised their own mechanism of monitoring and evaluation at different levels.

Madhya Pradesh - The Directorate of Education monitors this scheme at the state level by judging the quality of cloth and other material and the distribution procedure. Monitoring and evaluation at the district level is done by the district and zonal offices supervised by special cell at the state level.

Orissa - Monitoring is done by the Social Welfare Department, Government of Orissa.

West Bengal - This scheme is monitored and evaluated by the West Bengal Primary Education Council with the help of district level machinery evolved at the district level

Delhi - Monitoring is done by the Directorate of Education

Pondicherry - The scheme is monitored by the Joint Director (Elementary Education) through the inspecting officers and a statistical cell has been created to evaluate the impact of this scheme on admission, retention and prevention/ reduction of dropouts The mechanism is still to be evolved

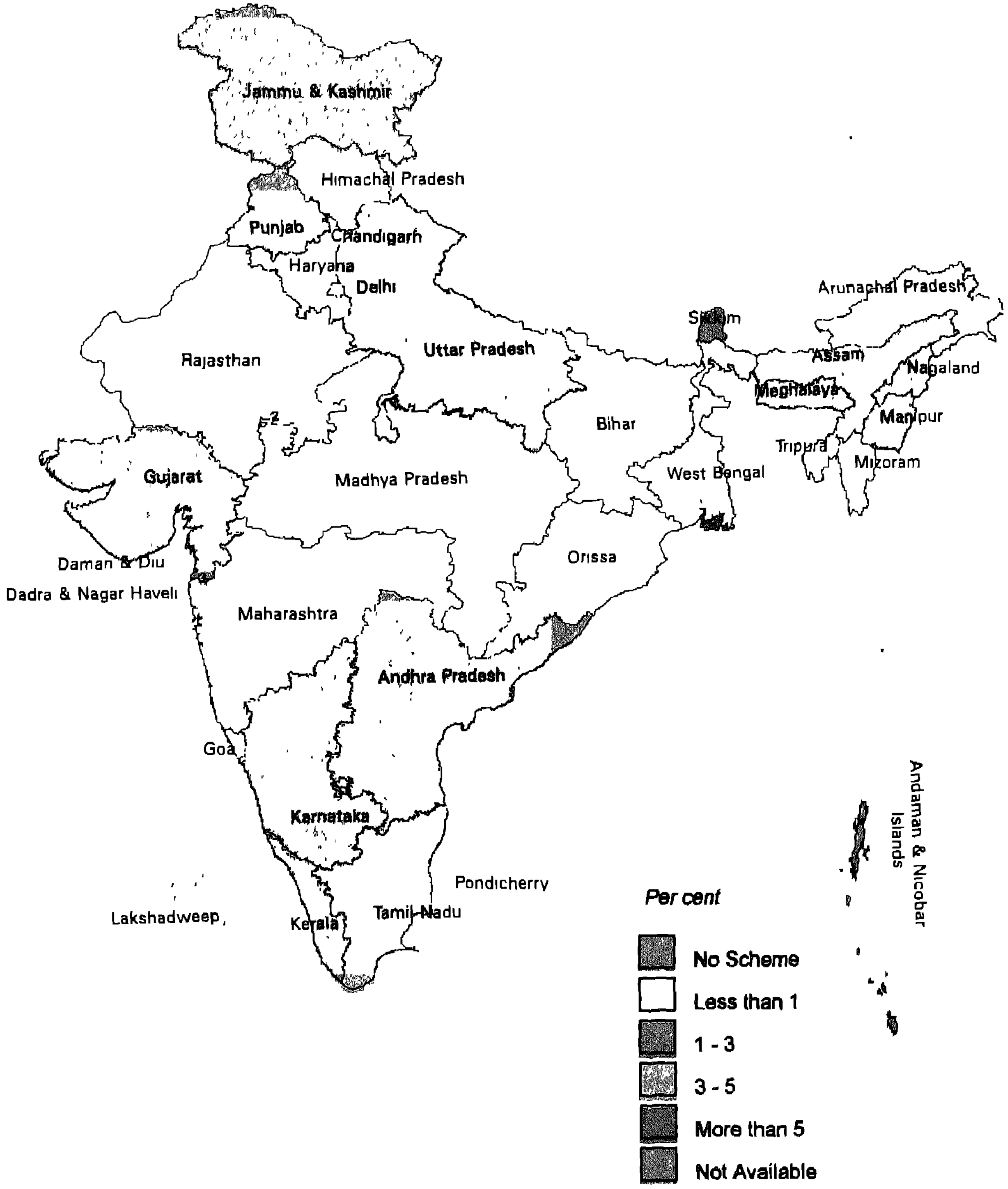
2.3.11 ***Budgeted Expenditure:*** Twenty states/UTs have provided information on budgeted expenditure on free uniform during the financial year 1995-96 Mizoram has supplied information for the year 1996-97 Sikkim spends a substantial part of expenditure (7.35%) on elementary education on this scheme followed by Dadra & Nagar Haveli (4 39%), Daman & Diu (4 32%) and Tamil Nadu (4 15%). On the lower side of the scale come Himachal Pradesh (0.04%), Bihar (0 07%), Rajasthan (0 08%), Delhi (0 09%) and Madhya Pradesh and Orissa (0.10%). Table 2 3 and Map 2.2 summarise the situation

Table 2.3
Budgeted Expenditure on Free Uniform as Percentage of Expenditure on Elementary Education (1995-96)

Sl. No	*State/UT*	*Percentage expenditure*
1.	Andhra Pradesh	No scheme
2.	Arunachal Pradesh	3 39
3	Assam	No scheme
4	Bihar	0.07
5	Goa	0.37
6.	Gujarat	Not Available
7	Haryana	0.65
8.	Himachal Pradesh	0.04
9.	Jammu & Kashmir	1.68
10	Karnataka	1 24
11	Kerala	No scheme
12.	Madhya Pradesh	0.10
13	Maharashtra	0.28
14.	Manipur	No scheme
15.	Meghalaya	Not Available
16.	Mizoram	0 05*
17.	Nagaland	No scheme
18.	Orissa	0 10
19	Punjab	No scheme
20	Rajasthan	0 08
21.	Sikkim	7.35
22.	Tamil Nadu	4 15
23	Tripura	0 27
24.	Uttar Pradesh	No scheme
25	West Bengal	0.36
26	A&N Islands	Not Available
27.	Chandigarh	2 16
28	Dadra & Nagar Haveli	4.39
29.	Daman & Diu	4.32
30.	Delhi	0.09
31	Lakshadweep	No scheme
32.	Pondicherry	3 45

Source. (1) Information received from states/Union Territories
(2) Analysis of Budgeted Expenditure on Education. MHRD, 1998b, p.18

Map 2.2 Budgeted Expenditure on Free Uniform as Percentage of Expenditure on Elementary Education (1995 - 96)



2.3.12 Problems: Most of the states have not reported any problems in the operation of this scheme However, some of the states reported that they encounter problems in the execution of the scheme as given below.

Madhya Pradesh - Taking into consideration the vastness of the area, its location, backwardness and the large number of backward classes, the funds allocated do not appear to be sufficient with the result the demand of the backward classes is not fully met. In case more funds are allocated to the state then the demand of these classes can be met.

Maharasthra - The funds allocated through the District Planning and Development Committee are inadequate. The process of fixing agencies and finalisation of rates by the Rural Development Department causes delay in supply of uniforms. The funds are made available at the rate of Rs. 80 per student for a pair of uniforms which is much lower than the market price Therefore the targets can not be achieved

Meghalaya - The state reports that the funds earmarked for the scheme get reduced in the successive plan because of other committed expenditure. Secondly, the scheme is subjected to criticism because of alleged discrimination in the selection of students entitled for this benefit.

Mizoram - The state reports that free uniform is distributed to only selected social class of poor children studying in classes I to IV. Because of shortage of funds, this state cannot cover all children of primary schools

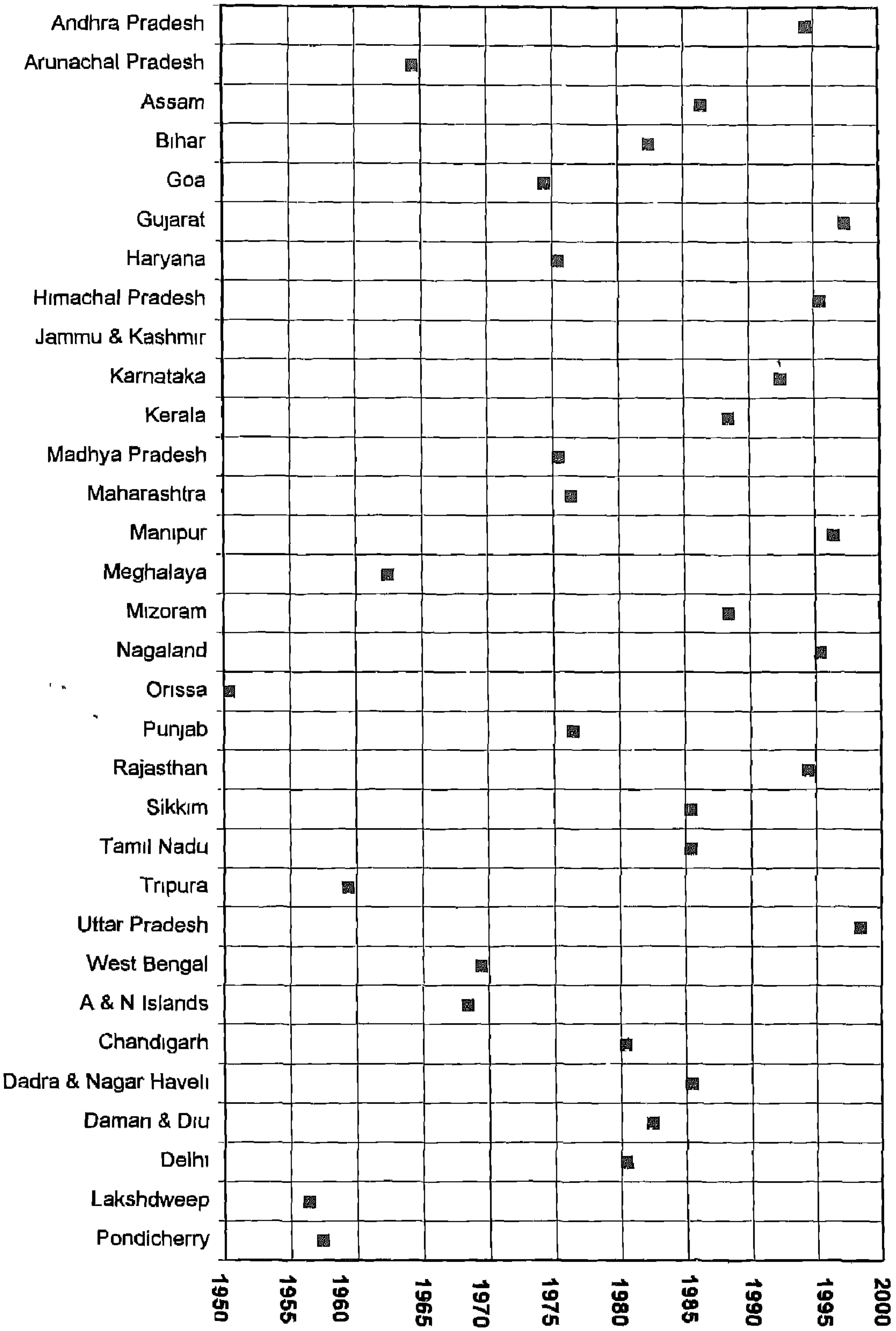
2.4.0 Free Textbooks/Note books:

2.4.1 Possession of textbooks and teaching material is central to any educational process. Under the prevailing economic conditions the deprived sections of society find it very difficult to invest in them Consequently, the pupil, bereft of these materials, finds the teaching learning process very difficult. To overcome this difficulty the scheme of provision of free textbooks/notebooks to students has been launched in the country.

Hallak (1990) reports that in the least developed countries textbooks and other instructional devices constitute 85 per cent of recurrent expenditure on materials The classrooms deprived of textbooks promote little in the way of reading skills and the students are obliged to content themselves with rote learning, recitation, copying from blackboard and taking class notes.

2.4.2 Year of Launching: All the states/ UTs have the programme of free textbooks to students. From the analysis of replies received it appears that Orissa is the state that launched the scheme earliest in the country in 1950 and the latest to launch the scheme with the World Bank assistance is Uttar Pradesh which has launched the scheme in 15 districts in the year 1998-99. Figure 2 5 shows that this programme has picked up from the year 1975. The state of Jammu and Kashmir has not reported the year of launching of this scheme.

Figure 2.5
Year of Launching of Free Textbooks Scheme



2.4.3 Target Groups: As many as eight states cover both boys and girls from all social groups, while only girls are covered in Kerala, Manipur and Uttar Pradesh. However, the coverage is extended to SC/ST boys also in Uttar Pradesh Four states cover both SC/ST and EBC while eight states cover SC/ST only and other four states cover EBCs only. Besides, there are five states, namely, Andhra Pradesh, Jammu & Kashmir, Karnataka, Madhya Pradesh and Rajasthan which have reported different target groups for different sets of classes Figure 2.6 presents a detailed picture of the target groups under this scheme.

2.4.4 Mode of Execution: Cash payment in lieu of textbooks is made in Manipur and Tripura. Nagaland which has not furnished information on this item, the remaining 29 states / UTs supply books to students.

2.4.5 Implementing Agency: Most of the states/ UTs (including Uttar Pradesh) numbering 26 implement this programme through their Departments of Education, whereas departments of Social Welfare implement this scheme in Orissa and Punjab. As reported earlier this is a World Bank programme in Uttar Pradesh carried out through the Department of Education Assam Textbook Publication Corporation implements this scheme in the state of Assam Andhra Pradesh implements this scheme at the district level through District Level Textbook Distribution Committee under the chairmanship of Joint Collector In Daman & Diu and Lakshadweep this scheme is implemented by the UT administration.

Textbook Publication Corporations play a major role in this scheme in Assam, Bihar, Karnataka, Madhya Pradesh and Rajasthan. Kerala implements this scheme through cooperative societies Zilla Parishads or Municipalities are involved in implementation of this scheme in Maharashtra and West Bengal.

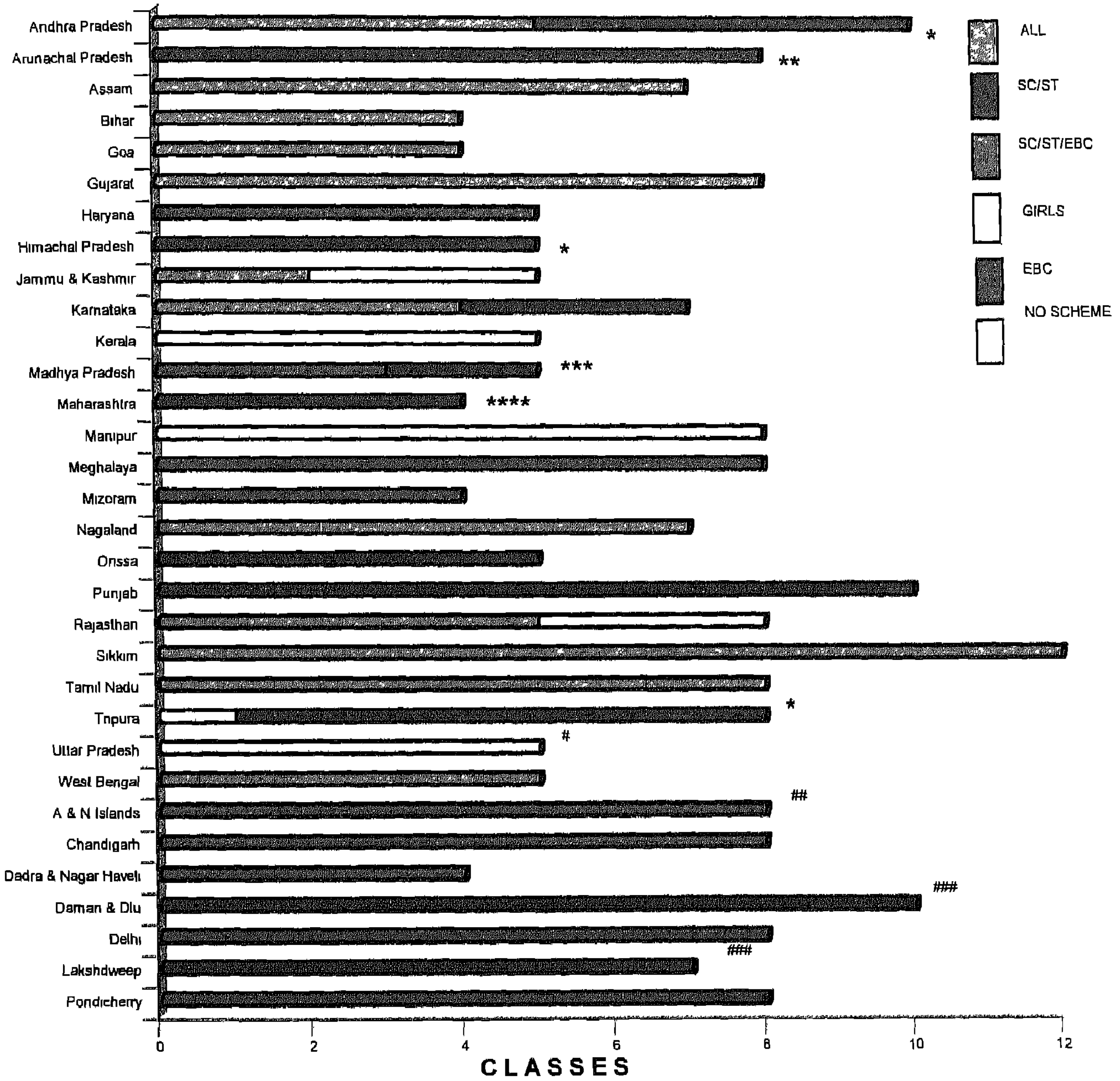
2.4.6 Organisational Structure: Though the overall control of the project is exercised by the State Education Department or State Social Welfare Department as the case may be a large majority of States/UTs numbering 28 have reported that they do have organisational structure at the state level for the implementation of this scheme. Two States have not given any information.

Arunachal Pradesh has not clearly stated their organisational structure at the state level. But without some control from the state headquarter it is not possible to effectively implement the scheme. As we come down in the levels of administration the organisation structure peters out, as is evident from the fact that organisational structure at district, block and schools levels is found in a limited number of states. At the Community level, it is negligible.

Some of the States have devised an elaborate organisational structure at various levels. Such examples are given below

Andhra Pradesh - The state has constituted District Level Textbook Distribution Committees under the chairmanship of Joint Collector for the purpose. The District Education Officer is the officer who supplies books at the school level.

Figure 2.6
Target Groups under Free Textbooks Scheme



* In Andhra Pradesh , Himachal Pradesh and Tripura OBC students are also covered

** In Arunachal Pradesh only ST of the state are covered

*** In Madhys Pradesh OBC students studying in classes 1-5 are also covered Further all girls in rural areas studying in classes 1-3 are covered

**** In Maharashtra all students from Educationally Backward Blocks are also covered

In Utter pradesh SC/ST boys are aslo covered

In A & N Inlands only ST and EBC are covered

In Daman & Diu and Lakshadweep only ST students are covered

Assam - Assam Textbook Production and Publication Corporation Limited and Assam Rashtriya Bhasha Prachar Samiti are involved in the implementation of this scheme.

Bihar - Bihar State Textbook Publication Corporation is the implementing agency for the entire state whereas Bihar Education Project Council is concerned with 27 districts under DPEP.

Karnataka - Directorate of State Educational Research and Training is responsible for distribution of books to children

Madhya Pradesh - Textbooks are prepared by Textbook Corporation and distributed to children through Panchayats.

Orissa - Welfare Department, Government of Orissa implements this scheme

Punjab - This scheme has been implemented by the Director Welfare, Scheduled Castes and Backward Classes, Punjab.

Rajasthan - Rajasthan State Textbook Board provides books for the programme

2.4.7 Quantum of Benefit: The quantum of benefit per student per annum appears to be meagre in view of the prevailing price level This ranges from Rs. 14 in West Bengal to Rs. 443 in Mizoram. Andhra Pradesh, Gujarat, Jammu & Kashmir, Orissa, Punjab, Uttar Pradesh and Andman & Nicobar Islands have not responded to this item. The position in respect of remaining 25 states/UTs is summarised as under:

Table 2.4
Quantum of Benefit on Free Textbooks/Note Books Per Student Per Annum

Benefit Range	*States/Union Territories*
Up to 50	Assam (Rs 42), Bihar (Rs.33 75), Goa(Rs.30), Haryana (Rs.35), Karnataka(Rs 33), Kerala (Rs. 25), Madhya Pradesh (Rs.40), Rajasthan (Rs 20), Tamil Nadu (Rs.32.50), Tripura (Rs.16), West Bengal (Rs.14), Dadra & Nagar Haveli (Rs.42)
51 – 100	Himachal Pradesh (Rs 61), Maharashtra (Rs. 72), Manipur (Rs 65 37), Chandigarh (Rs 100), Daman & Diu (Rs. 68), Delhi (Rs 60), Pondicherry (Rs. 75)
101 – 150	Arunachal Pradesh (Rs. 150), Meghalaya (Rs. 125), Nagaland (Rs 116)
more than 150	Sikkim (Rs 170), Lakshadweep (Rs.231), Mizoram (Rs. 443)

2.4.8 Coverage: Twenty three states/ UTs cover all the districts Another set of five states, namely Assam (21), Bihar (27), Himachal Pradesh (10), Nagaland (2) and Uttar Pradesh (15) covered the number of districts shown within the parentheses. Goa, Maharashtra, Orissa and Punjab have not given information on this point. Only 19 states cover all the blocks while 4 cover less number of blocks Bihar, Goa, Gujarat, Himachal Pradesh, Maharashtra, Manipur, Nagaland, Punjab and Rajasthan have not given information on this point.

2.4.9 Linkages: There does not appear to be any linkages with other programmes or departments except in the cases where this programme is implemented by Welfare Department or a Textbook Publication Corporation of a state as pointed out earlier. In Bihar this scheme is implemented under DPEP- III programme in 27 districts in collaboration with Government of India and International Development Agency (IDA).

2.4.10 Mechanism for Monitoring and Evaluation: Though most of the States have not specified the system of monitoring and evaluation of this scheme there must be some financial auditing under the prevalent financial controls The system of monitoring and evaluation spelt out by some of the states and UTs is described below

Assam - SCERT undertakes the development and review of textbooks based on the feedback from DIETs and field functionaries and necessary corrections and alterations if any, are recommended before the next printing.

Bihar - DPEP-III Programme is monitored and evaluated by the DMs/DCs while government's distribution of subsidised books is monitored by the District Superintendents of Schools at the district level. At the state level Departments of Primary, Secondary and Adult Education and Bihar State Textbook Corporation review and monitor the programme.

West Bengal - The total system of monitoring and evaluation of the scheme is guided by the West Bengal Primary Education Board with the help of district level machinery under the control of DPSC of the district.

Lakshadweep - The scheme is implemented through Headmasters in all the islands and problems, if any, are sorted out by the Directorate of Education.

2.4.11 Budgeted Expenditure: Table 2.5 and Map 2.3 provide statewise information on budgeted expenditure on free textbooks as percentage of expenditure on elementary education. Though all the states/UTs have this scheme, Andhra Pradesh, Jammu & Kashmir, Manipur, Meghalaya, Nagaland, Uttar Pradesh and A&N Islands have not supplied information on this point Smaller states/UTs among the remaining appear to make strenuous efforts in providing free textbooks to children, some of which like Sikkim(5.13%),Arunachal Pradesh(7.79%) and Lakshadweep(5.15%) spend a substantial proportion of expenditure on elementary education on this scheme. Assam (2 03%) and Punjab (2 68%) come after a big drop in proportion of expenditure followed by Pondicherry(1.73%), Rajasthan(1.44%), Tamil Nadu (1.42%), West Bengal (1.10%) and Dadra & Nagar Haveli (1 05%). The remaining states/UTs spend less than 1 per cent of the budgeted expenditure on elementary education on this scheme.

Table 2.5
Budgeted Expenditure on Free Textbooks as Percentage of Expenditure on Elementary Education (1995-96)

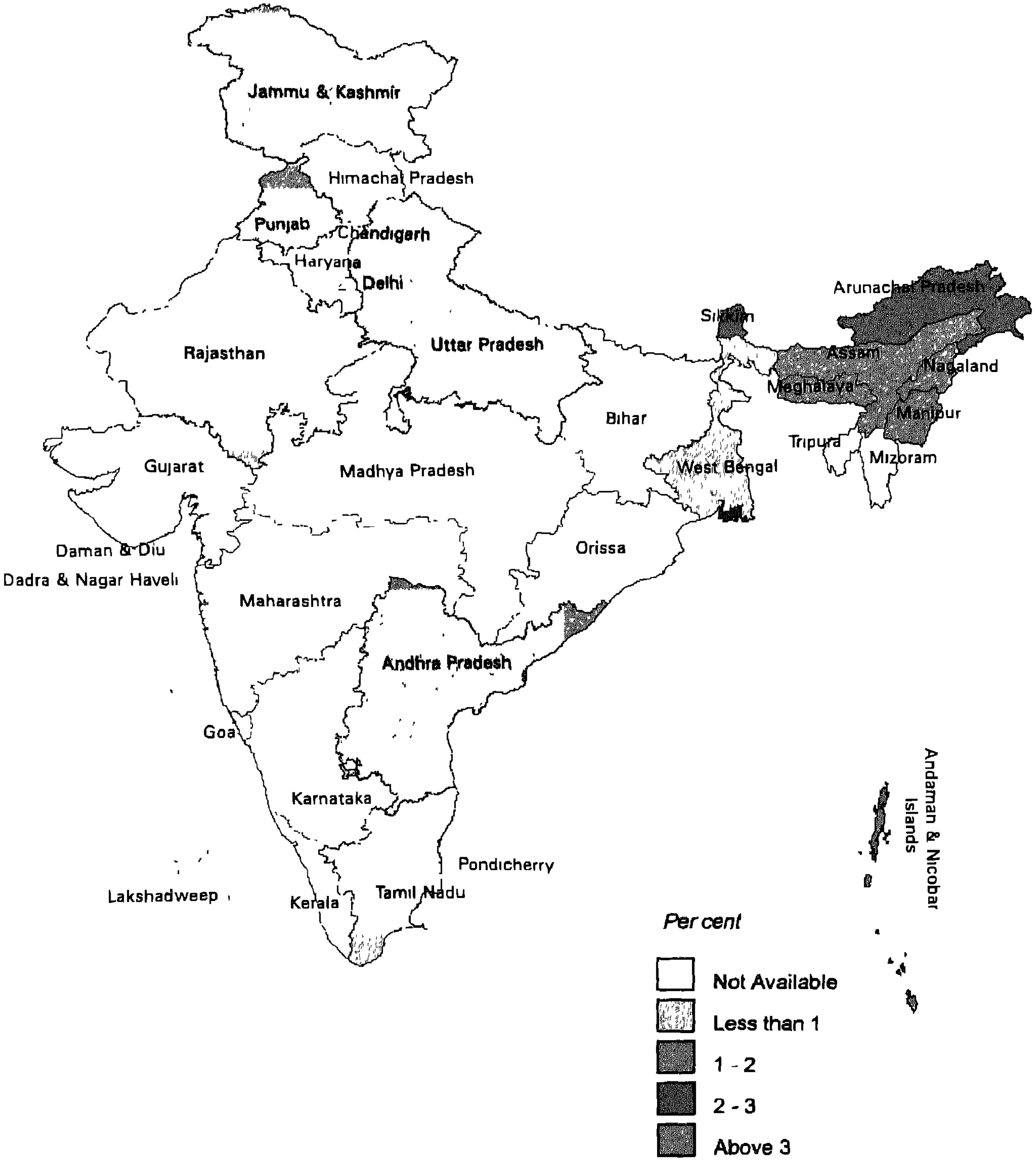
Sl. No.	*State/UT*	*Percentage Expenditure*
1.	Andhra Pradesh	NA
2.	Arunachal Pradesh	7.79
3.	Assam	2.03
4.	Bihar	0.71
5.	Goa	0.44
6	Gujarat	0.79*
7.	Haryana	0.13
8.	Himanchal Pradesh	0.54
9	Jammu & Kashmir	NA
10.	Karnataka	0.82*
11	Kerala	0.18
12	Madhya Pradesh	0.65
13	Maharashtra	0.24
14.	Manipur	NA
15	Meghalaya	NA
16.	Mizoram	0.12
17	Nagaland	NA
18.	Orissa	0.46
19.	Punjab	2.68
20.	Rajasthan	1.44
21.	Sikkim	5.13
22.	Tamil Nadu	1.42
23.	Tripura	0.72
24.	Uttar Pradesh	NA
25.	West Bengal	1.10
26	A&N Islands	NA
27.	Chandigarh	0.99
28.	Dadra & Nagar Haveli	1.05
29.	Daman & Diu	0.29
30.	Delhi	0.03
31	Lakshadweep	5.15
32.	Pondicherry	1.73

Source: (1) Information received from states/Union Territories.
(2) Analysis of Budgeted Expenditure on Education 1994-95 to 1996-97 MHRD, 1998b, p 18.

* State budgets in case of Gujarat and Karnataka

NA- Not available

Map 2.3 Budgeted Expenditure on Free Textbooks as Percentage of Expenditure on Elementary Education (1995 - 96)



2.4.12 Problems: The states must be facing problems in the implementation of this scheme but not many have explicitly said so. However, some states have faced problems in implementation of this scheme described below:

Arunachal Pradesh - The Directorate of Education does not have godown facility for proper storing, verification and distribution of the textbooks The disruption in road communication during rainy seasons caused by floods and landslides makes it difficult to despatch books to students of interior areas. There is delay in the supply of textbooks and submission of accounts by the supply agencies.

Maharashtra - Funds made available through the District Planning and Development Committee are always inadequate for this scheme.

Meghalaya - This scheme was introduced in the state during the Third Plan However, with successive plans, the funds get reduced compared to the demand.

Mizoram - Because of shortage of funds the scheme confines to children from poor families though the scheme is intended to cover lower and upper primary schools.

Tripura - The state reports that the Headmasters and guardians feel that the book-grant should be at par with the actual price of the textbooks.

2.5.0 Attendance Scholarship for Girls:

2.5.1 The children of school age from poor families are not sent to school because parents utilise the services of their children from their very childhood to augment their family income It is, therefore, considered necessary to provide a cash incentive to attract them to school, enrol them there and retain till they complete the primary cycle. Though most of the states/UTs have the provision of merit-cum-means scholarships to the students as a special measure to relieve girls from domestic chores, attendance scholarship for girls has been introduced in fourteen states and UTs. For instance, all the school attending children belonging to SC/ST and Backward classes are provided a welfare scholarship of Rs. 108/- per child per annum in Bihar. While all children belonging to Mushahar Community (SC) are paid Rs 240/- PA. The state has decided to pay Re.1/- per day per primary student whose parents/guardians are below poverty line from April 1999.

The lists of the eligible girl students are collected from schools and disbursement is done in cash through the schools. In other incentive schemes the disbursement is made in kind also which requires an elaborate organisational structure. Therefore, there is no mention of the other aspects of this scheme except the following on which information has been received

2.5.2 Year of launching: Of the fourteen states/UTs having this scheme Himachal Pradesh has not reported the year of launching of this scheme. The state of Tripura had introduced it as far lack as 1962. It may be noted from Figure 2.7 that the states introducing this scheme after 1990 are the major states.

2.5.3 Target Groups: This scheme appears to be confined to Scheduled Castes, Scheduled Tribes and EBC/OBC girl students in eleven out of fourteen states/UTs (refer Figure 2.8) that have this scheme. Himachal Pradesh, Chandigarh and Delhi (for rural areas only) have it for girls from all social classes. SC/ST girls are covered is Assam, Gujarat (OBC also), Tripura and Pondicherry (EBC also) while A&N Islands and Daman & Diu have this scheme for ST girls only. Further, this scheme is confined to EBC girls of all social groups in Goa and Karnataka (rural areas) only and to EBC girls amongst SC/ST category in Haryana, Maharashtra and Punjab. It appears that all the students of a particular social class that is being considered for this scheme are not covered. For example, Himachal Pradesh is awarding 5000 scholarships per year which is much less than the enrolment.

2.5.4 Quantum of Benefit: There is a wide disparity in the quantum of benefit under this scheme which ranges from Rs. 20 to Rs 500 per student per annum. The state of Karnataka and UT of A&N Islands have not given this information.

Table 2.6
Quantum of Benefit on Attendance Scholarship for Girls Per Student Per Annum

States/UnionTerritories	*Benefit Range (Rs.)*
Himachal Pradesh(Rs 50), Pondicherry (Rs 20)	upto 50
Gujarat(Rs.100), Haryana (Rs.120)	51-150
Maharashtra(Rs.220)	151-250
Assam(Rs.300)*, Tripura(Rs.300), Chandigarh (Rs.300) Delhi (Rs 300)	251-350
Goa(Rs.400), Daman & Diu (Rs.360)	351-450
Punjab(Rs.500)	451-550

**Assam State provides 10,000 special scholarships of Rs. 300/- per annum to SC/ST girls of classes I-IV and 30,000 scholarships of Rs 100/- each to both SC/ST boys and girls for regular attendance and for merit -cum-means*

2.5.5 Budgeted Expenditure: Among the fourteen states/UTs that have the scheme, Punjab and A&N Islands have not supplied information on budgeted expenditure on this scheme. Percentage of budgeted expenditure on this scheme to expenditure on elementary education is maximum in case of Daman & Diu (2.20%) followed by Delhi (1.10%). On the lower side are states like Himachal Pradesh (0.01%), Gujarat (0.03%) and Assam (0.07%). The position in case of other states/UTs is shown in Table 2 7 and also depicted in Map 2.4.

Figure 2.7

Year of Launching of Attendance Scholarship Scheme

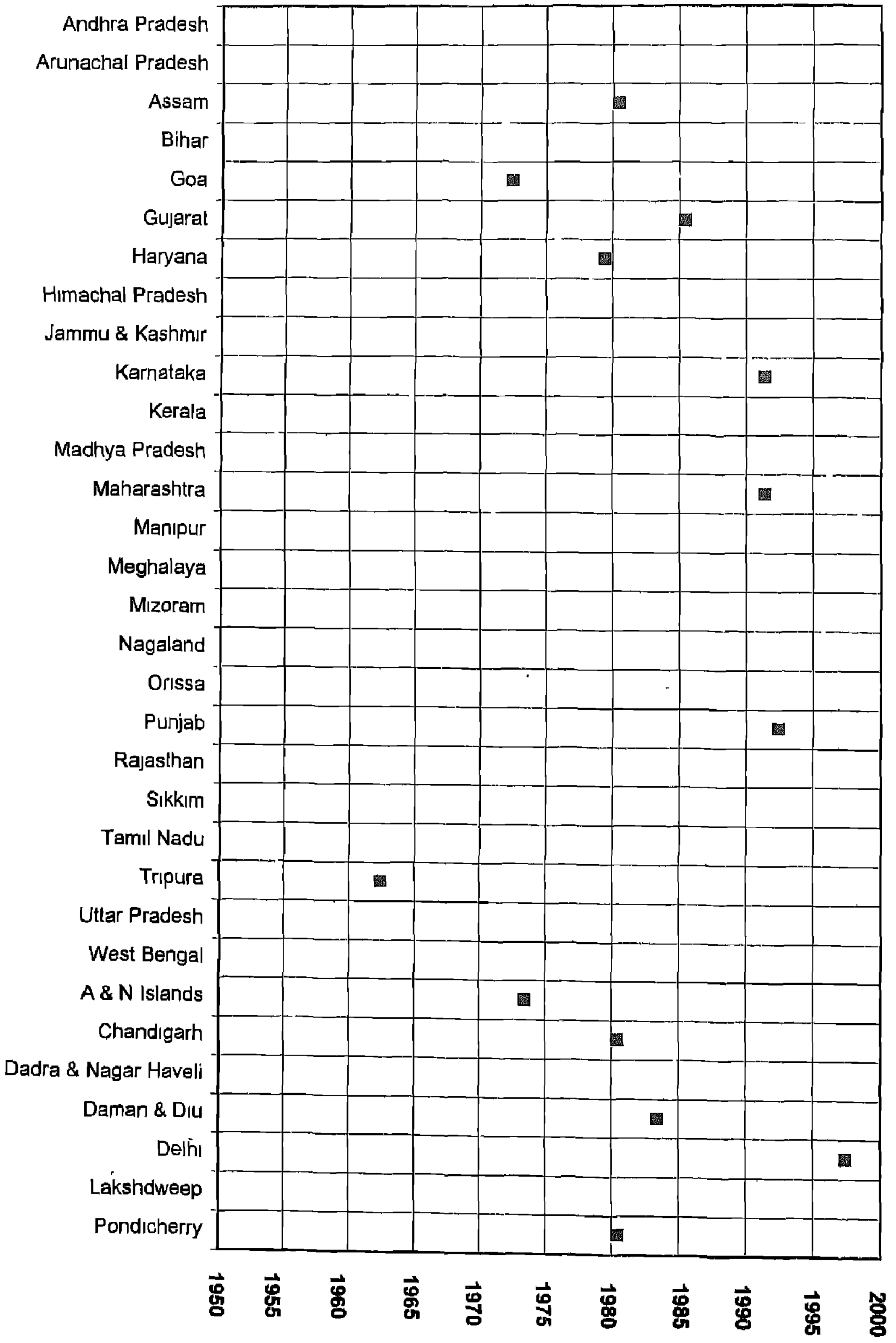
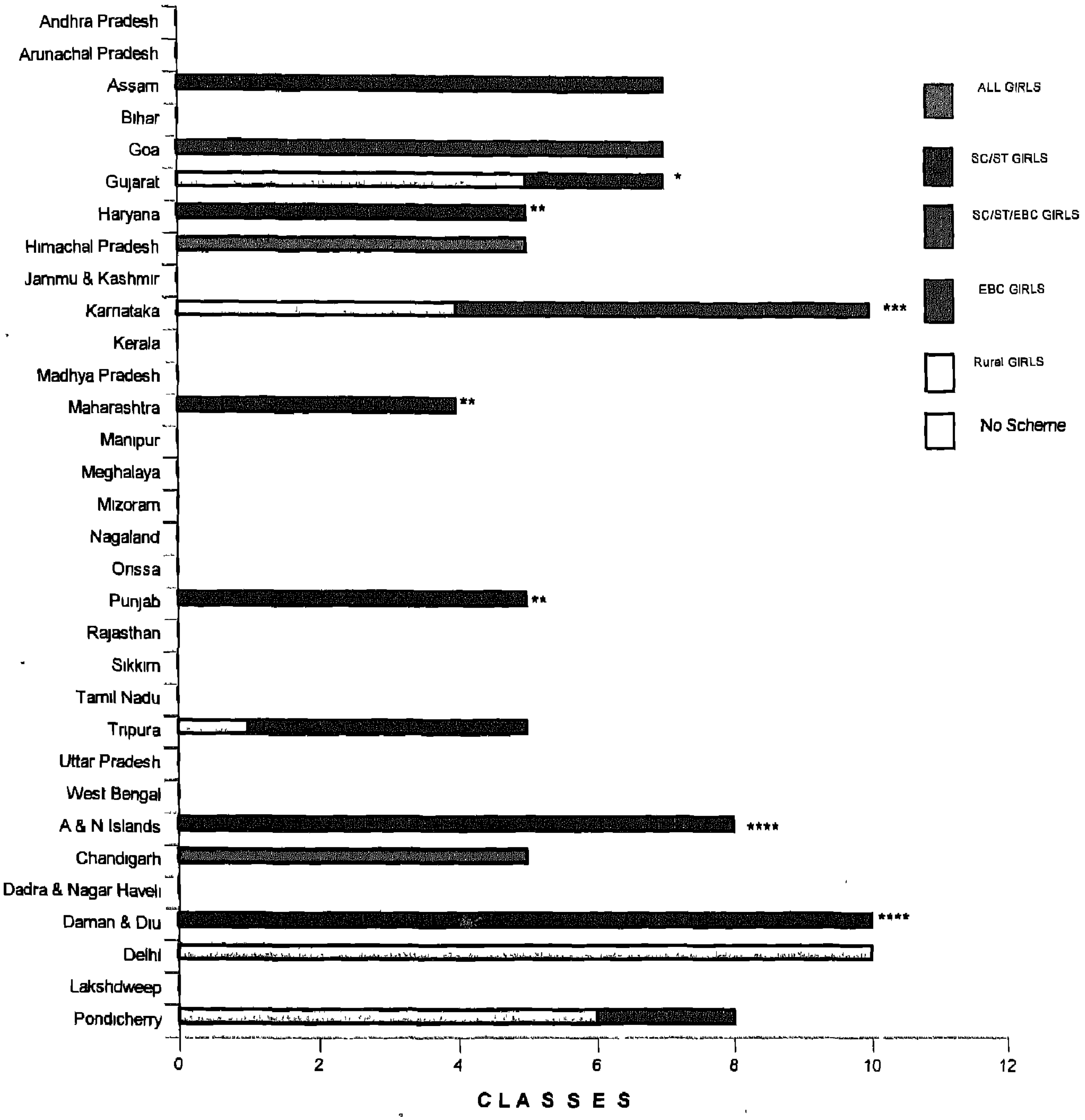


Figure 2.8

Target Groups under Attendance Scholarship Scheme for Girls



* In Gujarat OBC girls are also covered.

** In Haryana, Maharastra and Punjab only EBC girls among the SC/ST are covered

*** In Karnataka EBC girls belonging to Rural area only are covered

**** In A & N Islands and Daman & Diu only tribal girls are covered

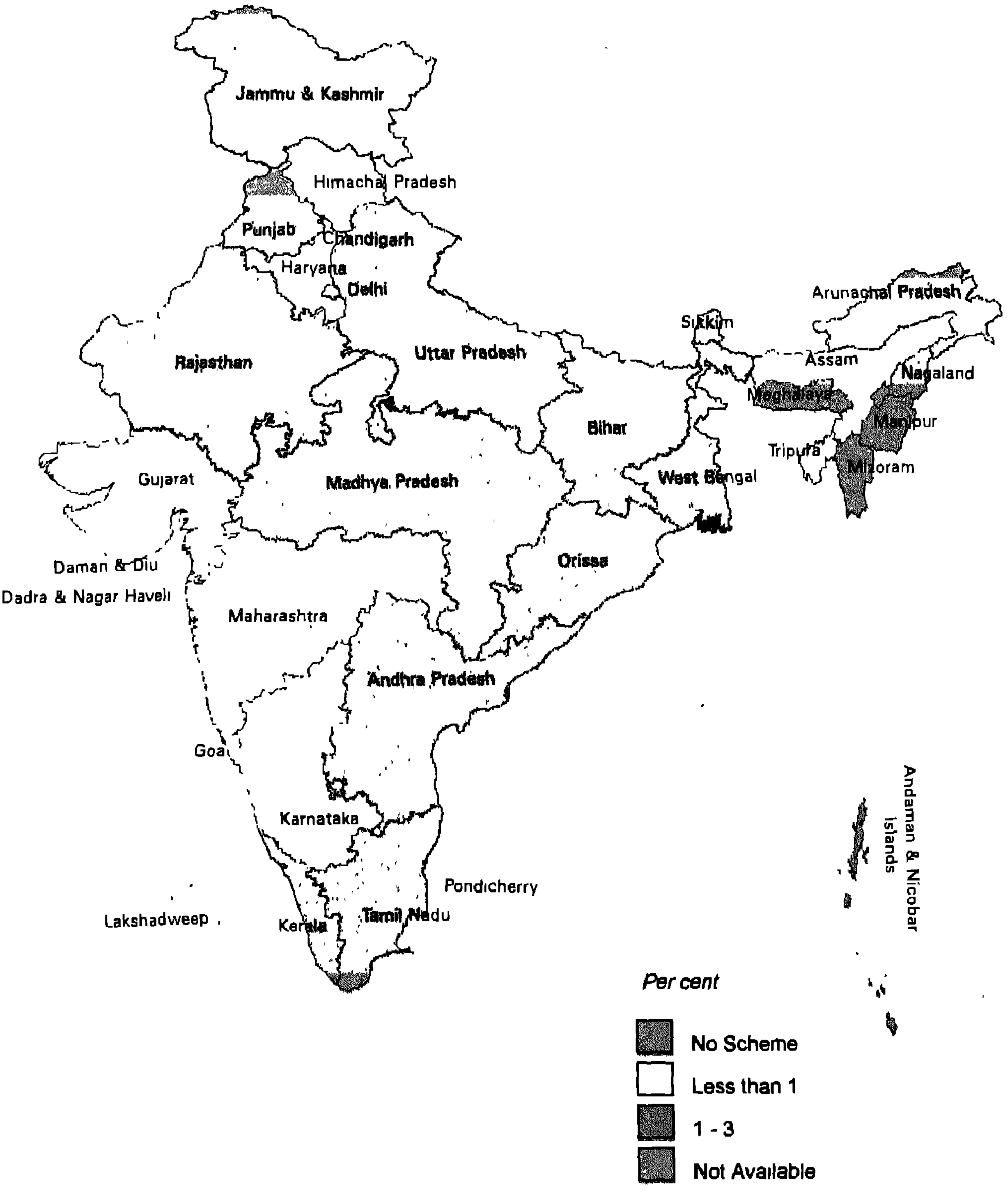
Table 2.7

Budgeted Expenditure on Attendance Scholarships for girls as Percentage of Expenditure on Elementary Education (1995-96)

Sl No.	*State/UT*	*Percentage expenditure*
1.	Andhra Pradesh	No scheme
2.	Arunachal Pradesh	No scheme
3.	Assam	0.07
4.	Bihar	No scheme
5.	Goa	0.09*
6.	Gujarat	0.03
7	Haryana	0 65
8.	Himachal Pradesh	0.01
9.	Jammu & Kashmir	No scheme
10.	Karnataka	0 19
11	Kerala	No scheme
12.	Madhya Pradesh	No scheme
13	Maharashtra	0.79
14.	Manipur	No scheme
15.	Meghalaya	No scheme
16.	Mizoram	No scheme
17	Nagaland	No scheme
18.	Orissa	No scheme
19	Punjab	Not Available
20.	Rajasthan	No scheme
21.	Sikkim	No scheme
22	Tamil Nadu	No scheme
23.	Tripura	0 11
24.	Uttar Pradesh	No scheme
25	West Bengal	No scheme
26.	A&N Islands	Not Available
27.	Chandigarh	0.64
28.	Dadra & Nagar Haveli	No scheme
29.	Daman & Diu	2.20
30.	Delhi	1.10
31.	Lakshadweep	No scheme
32.	Pondicherry	0.01

Source: (1) Information received from States/Union Territories.
(2) Analysis of Budgeted Expenditure on Education 1994-95 to 1996-97 MHRD, 1998b, p.18.
* Information is for the year 1996-97

Map 2.4 Budgeted Expenditure on Attendance Scholarship for Girls as Percentage of Expenditure on Elementary Education (1995 - 96)



CHAPTER THREE

Socio-Economic and Educational Profile of States

3.1.0 Introduction

3.1.1 The preceding chapter discussed policies of the state governments and Union Territory administrations on the four incentives. These policies could be better understood and reviewed in the background of socio-economic and educational background of the states and union territories. Use of this information in the interpretation of the incentives will be a necessary input in the background of educational initiatives of several states, their inherent complexity and constrained financial support. This chapter, therefore, attempts to meet this requirement by presenting a background of the states on the aforesaid aspects specifically addressing a question of efficacy of incentives in reference to gender equity within the context of increased educational participation

3.1.2 The above mentioned purpose has been attempted by considering 23 state level indicators. These have been classified into three sub-components because of their inherent homogeneity namely, (i) socio-economic, (ii) financial and infrastructure inputs on education, and (iii) incentive schemes. Sustainability and impact of the incentive schemes will depend on these background characteristics In addition to these, the fourth sub-component, labeled as 'output' includes the indicators for participation of girls in primary education in terms of Gross Enrolment Ratio (GER) of girls (1997) and gender parity in the GER defined as GER Girls x 100/GER Boys

3.1.3 Discussion in each of the following sections attempts to present distribution aspects of each indicator belonging to the sub-component It has been achieved by grouping the states into categories depending on the value of the indicator. Some parameters like *mean, standard deviation and coefficients of variation*, given in Appendix I, provide quantitative measures for indicating variation in distribution of individual indicators. A visual perception of complexity of the distribution has been provided for each indicator by using the box plots. Each box plot presents *median value* (dotted line within the box), lower and upper boundary provided 25th and 75th percentiles respectively, and lower and upper handles indicate respective 10th and 90th percentile values of indicators. The extreme values have been shown by the circular dots. Finally correlations within and across the sub-constructs (Appendix II) reflect their inter-relationships

3.2.0 Indicators of Socio-Economic Background

3.2.1 The background of the states/UTs has to be studied in the light of socio-economic variables, which have a bearing on their potential for sustaining the incentive schemes for enhancement of girls' participation in primary education. For this purpose the following seven indicators described in Table 3.1 have been identified:

Table 3.1
State Level Socio-Economic Variables

Sl No.	*Label*	*Indicator's Description*	*Source*
1.	POPN	Percentage of the state population to country's population (1991)	RGI, 1992
2.	SCPOP	Percentage of SC population to total population (1991).	RGI,1992
3	STPOP	Percentage of ST population to total population (1991).	RGI, 1992
4.	FAG_LAB	Percentage of female agricultural labourers to total female workers (1991).	RGI, 1994
5.	MONTHEXP	95th Population percentile of monthly per capita expenditure in rural areas (1995)	NSSO,1998
6.	POVERTY	Percentage of population below poverty line (1993)	Kulshreshtha et al ,1998
7.	SURFROAD	Length of surfaced roads per 10,000 sq. km Area (1995).	MST, 1997

3.2.2 The size of population is an important factor to determine the effort required for running an incentive scheme. According to 1991 Census (RGI 1992), there is a wide variation in the demographic character of the states/UTs As many as fifteen states/UTs are so small that the population of each one of them accounts for less than one per cent of the total population of the country with Lakshadweep being the smallest in terms of population percentage (0061). In the remaining states/UTs this percentage ranges from 1.11 in Delhi to 16.44 in Uttar Pradesh.

3.2.3 The effect of caste factor on the outcome variables is of paramount importance to help plan special interventions for the caste disadvantaged groups. To bridge the caste gap, the Indian Constitution provides special concessions to the deprived and disadvantaged sections of the society to help them catch up with the advanced sections of the society in the process of development. Article 46 of the Constitution states that

> "The state shall promote with special care the education and economic interests of the weaker sections of the people, and in particular, of the Scheduled Castes and Scheduled Tribes and shall protect them from social injustice and all forms of exploitation."

To fulfil this Constitutional commitment, special emphasis has been put in all the sectors of planning including educational planning right from the launching of development plans for these deprived sections of the society. Reaffirming the need to achieve the long cherished goal of UEE, the NPE-86 states that

> "The new policy will lay special emphasis on the removal of disparities and to equalise educational opportunities by attending to the specific needs of those who have been denied equality so far "

3.2.4 The percentage of SC population to the country's total population is 16.48 according to 1991 Census (RGI, 1993). The states and UTs that come near this national average or above it are Haryana, Himachal Pradesh, Karnataka, Orissa, Punjab, Rajasthan, Tamil Nadu, Tripura, Uttar Pradesh, West Bengal, Chandigarh, Delhi and Pondicherry. The state of Nagaland and UTs of A&N Islands and Lakshadweep do not have any SC population in them The percentage of ST population to country's total population is 8 08 but its concentration is mostly in the North Eastern states. There is no ST population in Haryana, Jammu & Kashmir, Punjab, Chandigarh, Delhi and Pondicherry. The states/UTs that come closer to the national level in respect of ST population are Andhra Pradesh, Bihar, Maharashtra and A & N Islands. The two distributions of SC and ST population are presented in Tables 3 2 and 3.3 respectively

Table 3.2
States/UTs According to Percentage of SC Population

Percentage of SC Population	*States/Union Territories*
Nil	Nagaland, A & N Islands, Lakshadweep
Less than 1	Arunachal Pradesh, Meghalaya, Mizoram
1-5	Goa, Manipur, Sikkim, Dadra & Nagar Haveli, Daman & Diu
6-10	Assam, Gujarat, Jammu & Kashmir, Kerala
11-15	Andhra Pradesh, Bihar, Madhya Pradesh, Maharashtra
16-30	Haryana, Himachal Pradesh, Karnataka, Orissa, Punjab, Rajasthan, Tamil Nadu, Tripura, Uttar Pradesh, West Bengal, Chandigarh, Delhi, Pondicherry

Table 3.3
States/UTs According to Percentage of ST Population

Percentage of ST Population	*State/Union Territories*
Nil	Haryana, Jammu & Kashmir, Punjab, Chandigarh, Delhi, Pondicherry
Less than 1	Goa, Uttar Pradesh
1-5	Himachal Pradesh, Karnataka, Kerala, Tamil Nadu, West Bengal
6-10	Andhra Pradesh, Bihar, Maharashtra, A & N Islands
11-15	Assam, Gujarat, Rajasthan, Daman & Diu
16-30	Madhya Pradesh, Orissa, Sikkim, Tripura
31-45	Manipur
46-60	---
61-80	Arunachal Pradesh, Dadra & Nagar Haveli
More than 80	Meghalaya, Mizoram, Nagaland, Lakshadweep

3 2 5 Percentage of female agricultural labourers (FAG-LAB) to the total female workers could be taken as an index of the development of female education. This is because, if a state/UT has lesser proportion of female agricultural labourers, it could be presumed that it has more female workers in other vocations, entry to which can be secured on the basis of their educational qualifications. State-wise analysis reveals that the percentage of female agricultural labourers to the total female workers is less than 10 in eleven states/UTs. In the remaining states/UTs it ranges from 10 07 in Jammu & Kashmir to 60 33 in Andhra Pradesh

3 2 6 The remaining three indicators of this sub-component refer to the economic status of the states/UTs Among these, the 95th population percentile of monthly per capita expenditure on education in rural areas (MONTHEXP) is the highest at Rs. 1490 in Chandigarh followed by Rs. 1114 in Dadra and Nagar Haveli In other states/UTs it ranges from Rs. 428 in Bihar to Rs 960 in Delhi. Goa (14.92), Punjab (11 17), Chandigarh (11.35) Delhi (14.69) and Daman & Diu (15.80) appear to be among the most affluent states and UTs where percentage of population below poverty line (POVERTY) is less than 16. In other states/UTs, percentage of population below the poverty line ranges from 22.19 in Andhra Pradesh to 54.96 in Bihar. The length of surfaced roads per 10,000 sq.km (SURFROAD) could be taken as an index of the prosperity of a state/UT. It is observed that smaller states/UTs like Goa, Kerala, Punjab, Chandigarh, Dadra & Nagar Haveli and Delhi appear to

have longer surfaced roads per 10,000 sq. km. The range in other cases is from 349.18 km in case of Jammu & Kashmir to 5665.43 km in Haryana.

3.2 7 The distribution of the above seven socio-economic variables is depicted through box-plots in Figures 3.1 (a), 3.1 (b) and 3.1 (c). From these figures it is observed that the states/UTs are not uniformly placed on these indicators. However, their distribution is more or less similar on some indicators while it differs on others In the case of five indicators, namely, state's population size, proportion of female agricultural labourers, proportion of ST population, monthly per capita expenditure and length of surfaced roads, the states with below median values have shown lesser variation as compared to states having above median values on these indicators. The distribution appears to be symmetrical on the indicator *poverty* As regards proportion of SC population, lesser variation is observed amongst 25 per cent states having the lowest values as compared to top 25 per cent states.

3.2 8 Apart from the distribution of the socio-economic indicators, an attempt has also been made to study the correlation (r) between them presented in Table 3.4. Considering the demographic structure of the states/UTs, we find that the smaller states have a higher concentration of ST communities as is borne by the correlation co-efficient of -.383 between POPN and STPOP whereas bigger states have larger proportion of SC population as is evident from the correlation between POPN and SCPOP(r=.479). Further, the States/UTs with higher STPOP have lower proportion of female agricultural labourers, while the States/UTs with higher SCPOP have higher proportion of female agricultural labourers.

Table 3.4
Correlation Coefficients of Socio-economic Indicators

Variable	POPN	SCPOP	STPOP	FAG_LAB	MONTHEXP	POVERTY	SURFROAD
POPN	1.000						
SCPOP	.479	1.000					
STPOP	-.383	-.669	1.000				
FAG_LAB	.677	.460	-.422	1.000			
MONTHEXP	-.453	-.056	113	-.536	1.000		
POVERTY	.322	-.094	.210	.366	-.480	1.000	
SURFROAD	- 151	.225	-.223	-.273	.693	-.449	1.000

3 2.9 On the economic front, densely populated states/UTs have lower values of 95th population percentile of monthly per capita expenditure in rural areas (MONTHEXP) as is shown by r = -.453 between POPN and MONTHEXP Poverty and population are positively associated but states/UTs with higher percentage of population below poverty line have the lower values of 95th population percentile of monthly per capita expenditure in rural areas (r= -.480) The states with less population below poverty line have higher road communications, the correlation coefficient between POVERTY and SURFROAD being -.449.

3.3.0 Indicators of Financial and Infrastructure Inputs on Education

3.3.1 Schooling facilities, the building, lavatory, teachers, preferably female teachers in schools, could be considered an incentive for encouraging participation of girls in elementary education. These indicators are based on the data of the Sixth All India Educational Survey having date of reference as September 30, 1993 The following eight financial and infrastructure variables given in Table 3.5 have been identified for this purpose.

Table 3.5
Financial and Infrastructure Inputs on Education

Sl. No	*Label*	*Indicator's Description*	*Source*
1.	PCTEXP	Percentage of expenditure on elementary education to total expenditure on education (1995)	MHRD, 1998b
2.	PCAPEXP	Per capita expenditure on elementary education (1995), i e expenditure on elementary education divided by the total enrolment at elementary stage	MHRD, 1996, 1998b
3	EDFACIL	Percentage of rural population served by primary schools / sections (1993), within one km.	NCERT, 1997
4.	BUILDING	Percentage of primary schools with *pucca* buildings (1993).	NCERT, 1998b
5.	LAVATORY	Percentage of primary schools with separate lavatories for girls (1993).	NCERT, 1998b
6.	TCHR	Percentage of primary schools with two or more teachers (1993)	NCERT, 1998c
7.	FETCHR	Percentage of female teachers in primary schools (1993)	NCERT, 1998c
8.	BLACKB	Percentage of primary classes and their sections with usable blackboards (1993)	NCERT, 1998c

Figure 3.1(a): Socio-Economic Indicators

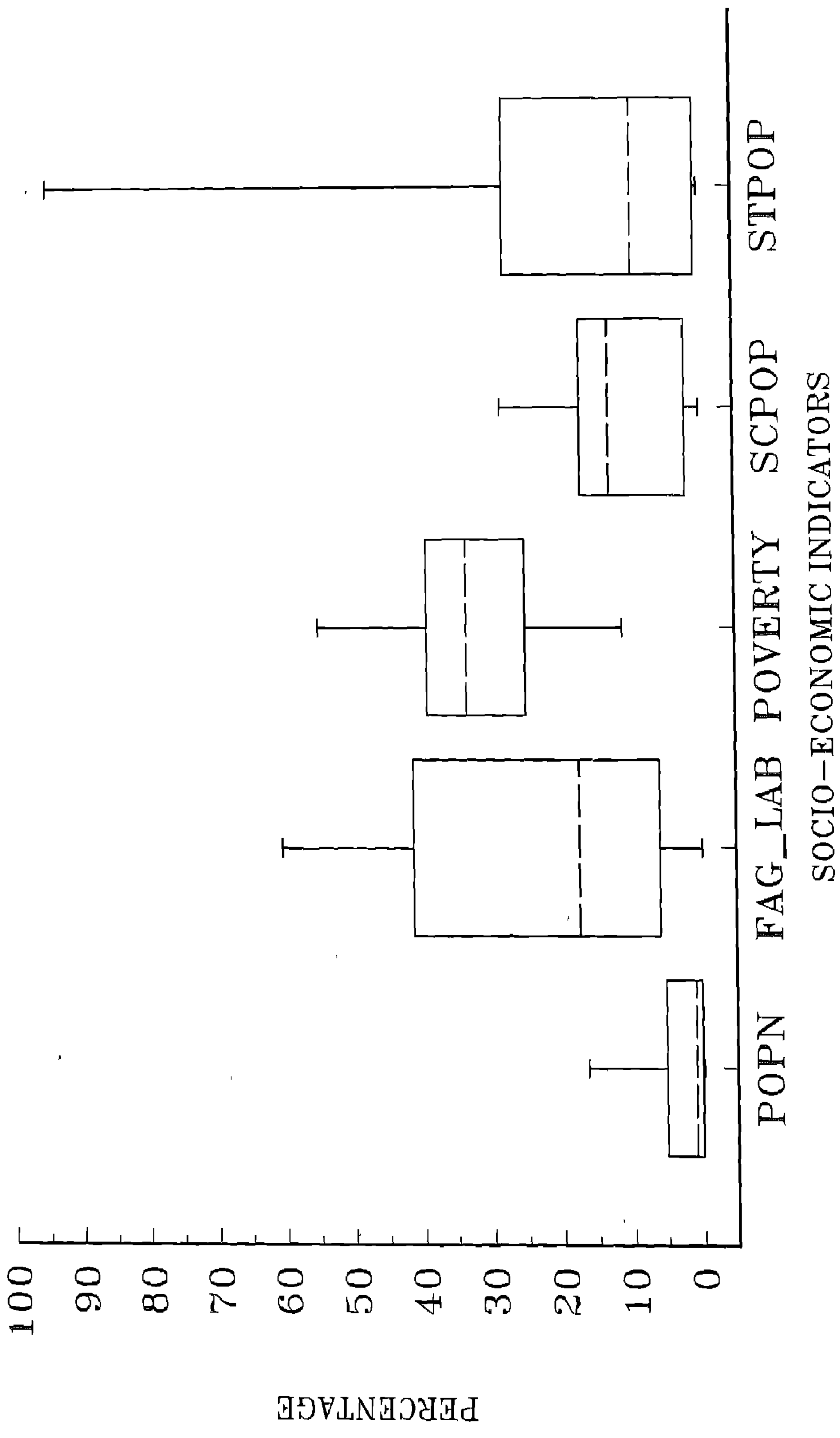


Figure 3.1(b): 95th Population Percentile of Percapita Monthly Expenditure in Rural Area (1995)

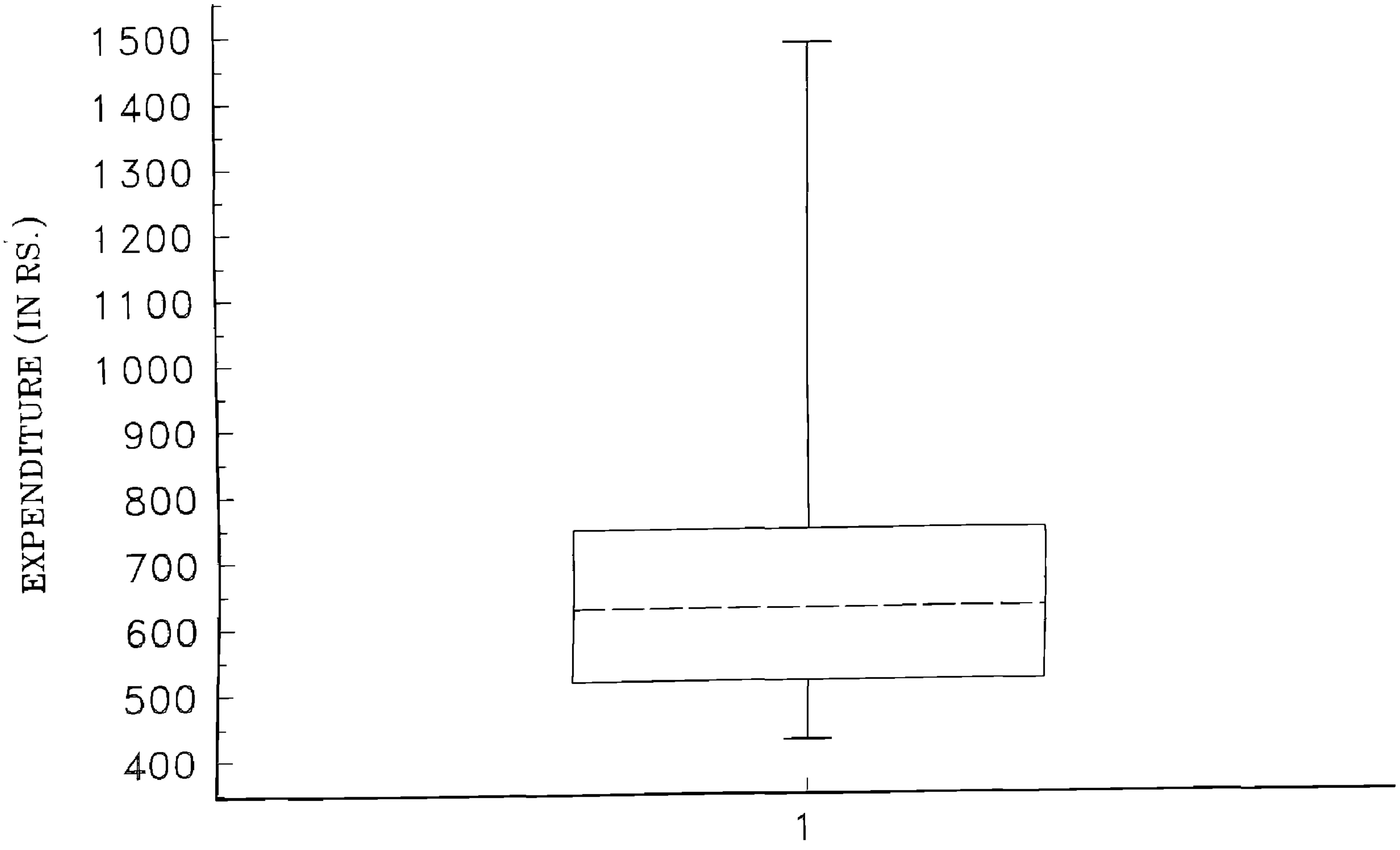
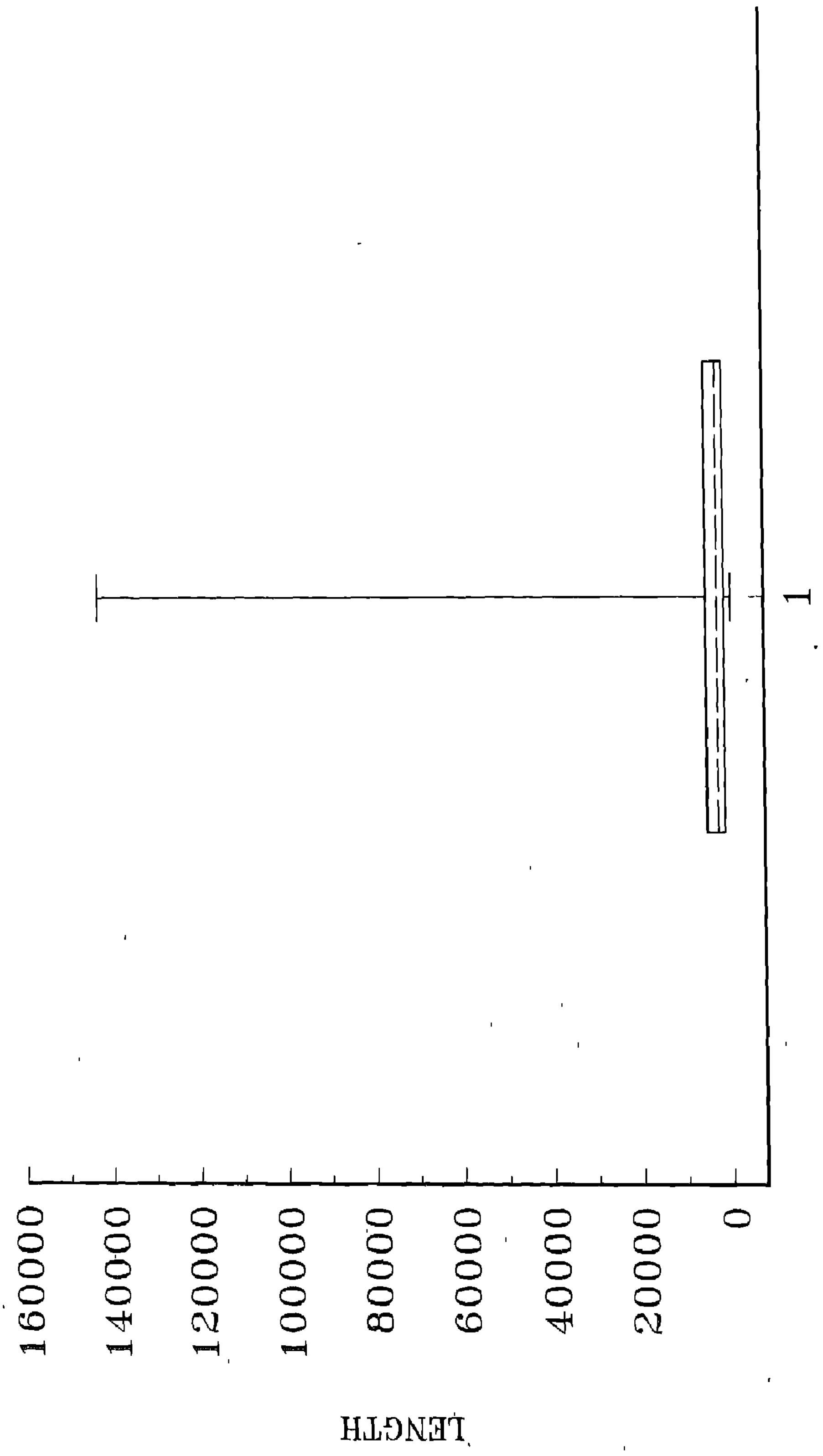


Figure 3.1(c): Length of Surfaced Roads per 10,000 Sq. Km. Area (1995)



3.3.2 Table 3.6 shows the distribution of expenditure on elementary education as percentage of total expenditure on education. The expenditure on elementary education constituted as low as 11.17 per cent for Punjab and 11.35 per cent for Chandigarh of the total expenditure on education. The states/UTs spending more than 60 per cent of their total expenditure on elementary education are Arunachal Pradesh, Assam, Bihar, Madhya Pradesh, Nagaland and Dadra & Nagar Haveli There is a wide range in the per capita expenditure on elementary education (PCAPEXP) which varies from Rs 458 in West Bengal to Rs 4193 in Lakshadweep Table 3.7 and Map 3.1 show the distribution of PCAPEXP

Table 3.6

States/UTs According to Percentage of Expenditure on Elementary Education to Total Expenditure on Education (PCTEXP)

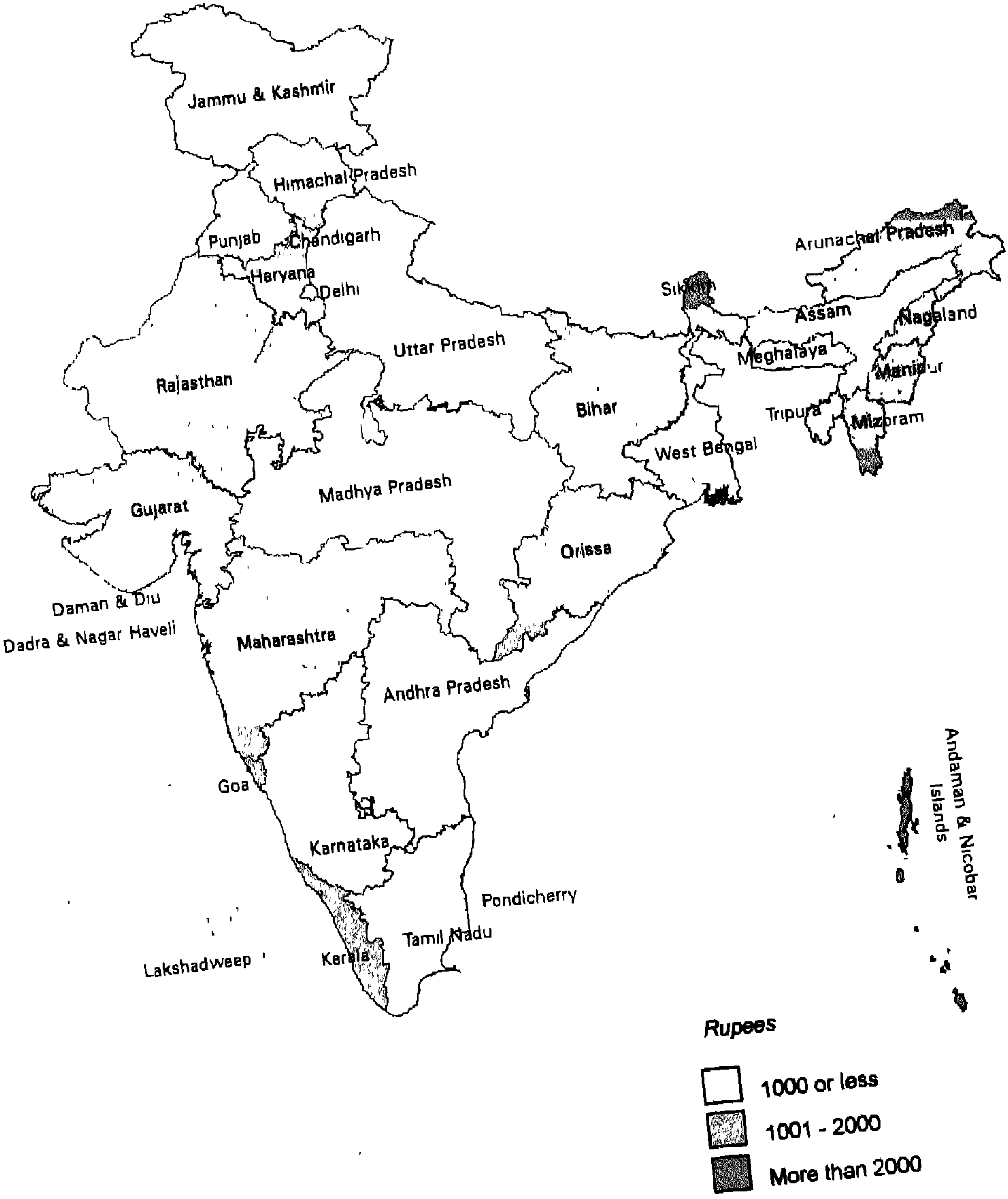
PCTEXP (%)	*States/Union Territories*
30 or less	Goa, Punjab, Chandigarh, Delhi
31-40	West Bengal, Daman & Diu
41-50	Andhra Pradesh, Haryana, Jammu & Kashmir, Karnataka, Kerala, Maharashtra, Mizoram, Tamil Nadu, Tripura, Lakshadweep, Pondicherry
51-60	Gujarat,Himachal Pradesh, Manipur, Meghalaya, Orissa, Rajasthan, Sikkim, Uttar Pradesh, A & N Islands
More than 60	Arunachal Pradesh, Assam, Bihar, Madhya Pradesh, Nagaland, Dadra & Nagar Haveli

Table 3.7

States/UTs According to Per Capita Expenditure on Elementary Education (PCAPEXP)

PCAPEXP(in Rs)	*States/Union Territories*
1000 or less	Andhra Pradesh, Karnataka, Madhya Pradesh, Punjab, Tamil Nadu, Uttar Pradesh, West Bengal, Delhi
1001-2000	Assam, Bihar, Goa, Gujarat, Haryana, Himachal Pradesh,Jammu & Kashmir, Kerala, Maharashtra, Meghalaya, Orissa, Rajasthan, Tripura, Dadra & Nagar Haveli, Daman & Diu, Pondicherry
More than 2000	Arunachal Pradesh, Manipur, Mizoram, Nagaland, Sikkim A&N Islands, , Chandigarh, Lakshadweep

Map 3.1 States/UTs According to Per Capita Expenditure on Elementary Education (1995)



3 3 3 According to the Sixth All India Educational Survey (1993), there are 22 states/UTs which have provision of schooling facilities at primary level within a distance of one kilometre for more than 90 per cent of their respective rural population. These include four states/UTs, namely, Punjab, Tamil Nadu, Daman & Diu and Lakshadweep, which have this facility for almost all their rural population Arunachal Pradesh and Himachal Pradesh are the two backward states on this aspect, which serve less than 80 per cent of their rural population while for the remaining eight states, namely, Assam, Kerala, Meghalaya, Sikkim, Tripura, Uttar Pradesh, A & N Islands and Dadra & Nagar Haveli this percentage ranges between 80 and 90.

3.3 4 On an average, only 10 73 per cent primary schools had lavatory facility. The states having this facility in less than one per cent primary schools are Assam, Jammu & Kashmir, Meghalaya and Tripura. It can be seen from Table 3.8 that there is a large variation in availability of *pucca* buildings to primary schools. On one extreme are the states like Mizoram and Nagaland where the percentages of primary schools possessing *pucca* buildings are 2.43 and 4 00 respectively and on the other extreme are Daman & Diu and Lakshadweep where all the primary schools are provided with *pucca* buildings

Table 3.8

States/UTs According to Percentage of Primary Schools with *Pucca* Buildings

Percentage of schools with pucca buildings	*States/Union Territories*
10 or less	Manipur, Mizoram, Nagaland
11-20	Assam, Sikkim, Tripura
21-30	Arunachal Pradesh; Meghalaya
31-40	Himachal Pradesh, West Bengal
41-50	Delhi
51-60	Jammu & Kashmir, Madhya Pradesh, Orissa, A&N Islands, Pondicherry
61-70	Bihar, Tamil Nadu
71-80	Andhra Pradesh, Kerala, Maharashtra
81-90	Gujarat, Karnataka, Uttar Pradesh, Chandigarh, Dadra & Nagar Haveli
More than 90	Goa, Haryana, Punjab, Rajasthan, Daman & Diu, Lakshadweep

3.3.5 From Table 3.9, it is found that up to 60 per cent primary schools have two or more teachers in Dadra & Nagar Haveli and Arunachal Pradesh. In other states, the position is better With regard to posting of female teachers in primary schools, Table 3.10 and Map 3.2 indicate that the position in the state of Bihar is not as good as compared to other states. Similar is the position with respect to availability of usable blackboards in primary schools.

Table 3.9
States /UTs According to Percentage of Primary Schools with Two or More Teachers (TCHR)

TCHR (%)	*States/Union Territories*
50 or less	Dadra & Nagar Haveli
51-60	Arunachal Pradesh
61-70	Andhra Pradesh, Jammu & Kashmir, Madhya Pradesh, Meghalaya
71-80	Assam, Bihar, Gujarat, Himachal Pradesh, Karnataka, Rajasthan
81-90	Goa, Haryana, Maharashtra, Manipur, Mizoram, Orissa, Punjab, Tamil Nadu, A & N Islands
More than 90	Kerala, Nagaland, Sikkim, Tripura, Uttar Pradesh, West Bengal, Chandigarh, Daman & Diu, Delhi, Lakshadweep, Pondicherry

Table 3.10
States/UTs According to Percentage of Female Teachers in Primary Schools (FETCHR)

FETCHR (%)	*States/Union Territories*
20 or less	Bihar
21-30	Arunachal Pradesh, Assam, Madhya Pradesh, Orissa, Rajasthan, Tripura, Uttar Pradesh, West Bengal, Lakshadweep
31-40	Andhra Pradesh, Gujarat, Jammu & Kashmir, Karnataka, Manipur, Nagaland, Sikkim, Dadra & Nagar Haveli
41-50	Haryana, Himachal Pradesh, Maharashtra, Meghalaya, Mizoram, Tamil Nadu, A & N Islands, Pondicherry
51-60	Punjab
More than 60	Goa, Kerala, Chandigarh, Daman & Diu, Delhi

Map 3.2 States/UTs According to Percentage of Female Teachers in Primary Schools (1993)

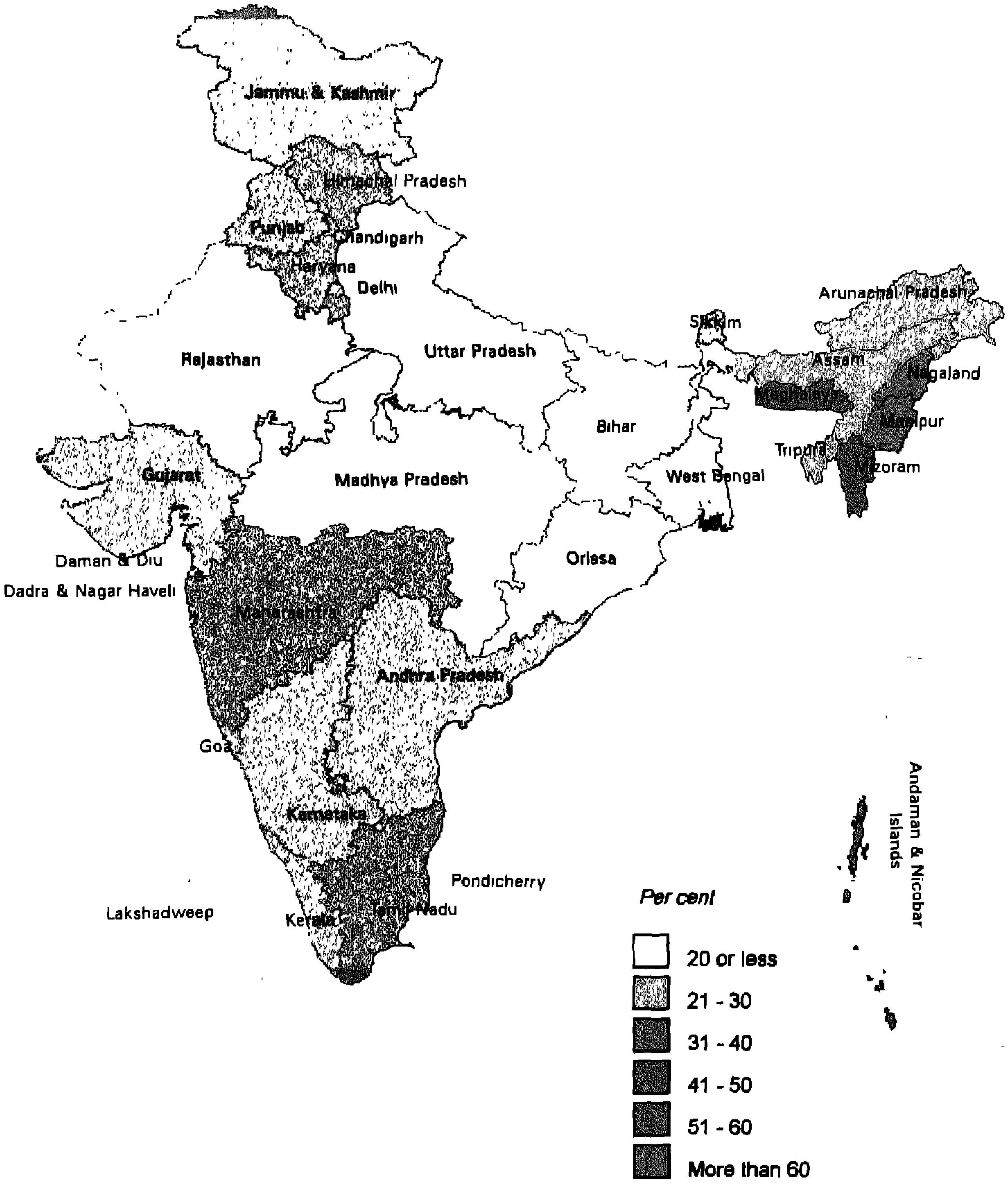


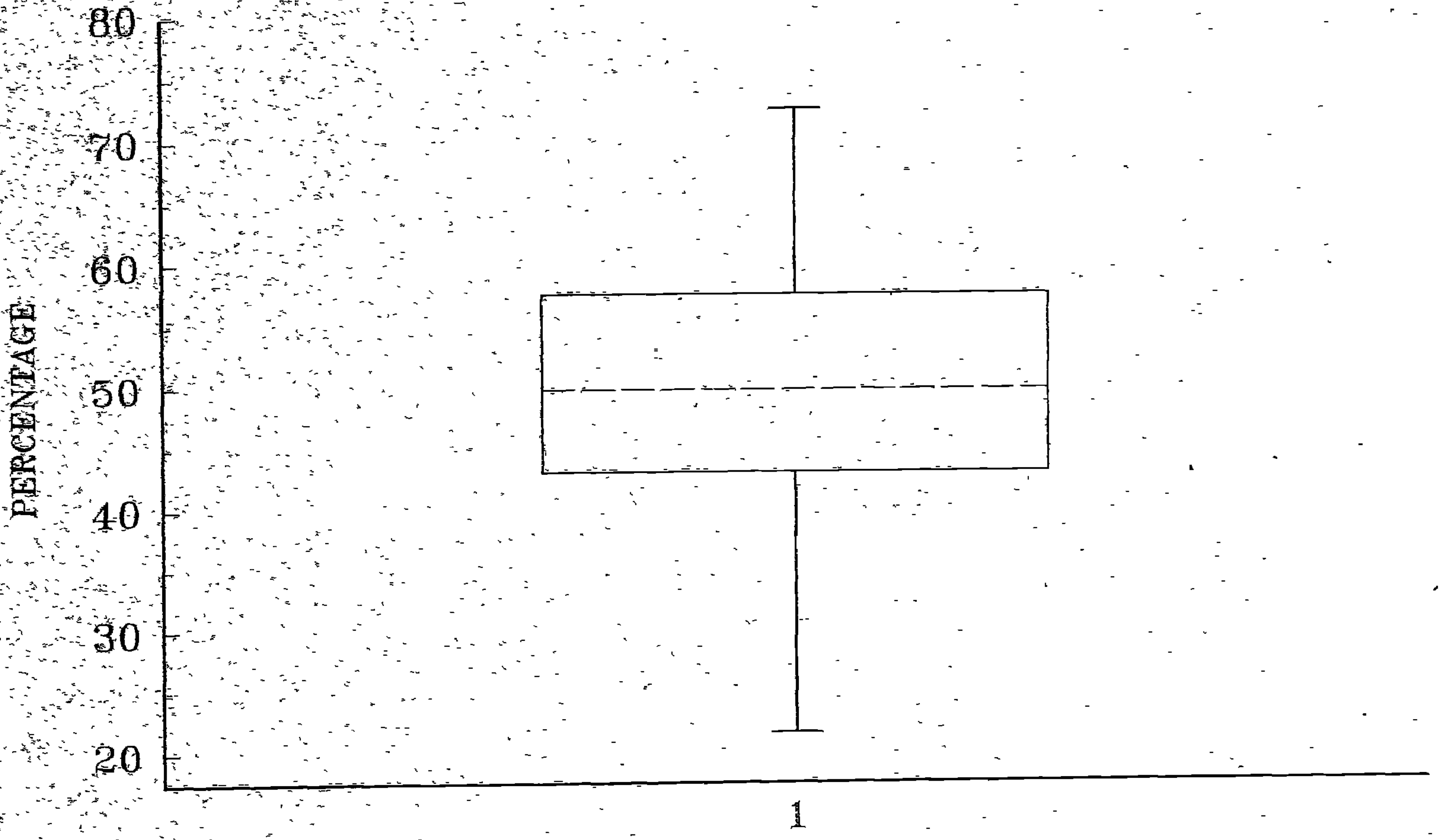
Table 3.11
States/UTs According to Percentage of Primary Sections with Usable Blackboards (BLACKB)

BLACKB (%)	*States/Union Territories*
40 or less	Bihar
41-50	Tripura
51-60	Assam, Karnataka, Madhya Pradesh, West Bengal
61-70	Andhra Pradesh, Arunachal Pradesh, Himachal Pradesh, Orissa, Rajasthan
71-80	Jammu & Kashmir, Kerala, Manipur, Meghalaya, Punjab,Tamil Nadu, Chandigarh.
81-90	Goa, Gujarat, Haryana, Maharashtra, Uttar Pradesh
More than 90	Mizoram, Nagaland, Sikkim, A & N Islands, Dadra & Nagar Haveli, Daman & Diu, Delhi, Lakshadweep, Pondicherry

3 3 6 The distribution of financial and infrastructure variables is depicted by the box plots given in Figures 3.2 (a), 3 2 (b) and 3.2 (c). An examination of these figures shows a mixed distribution behaviour of the variables considered in this Section. Three indicators, namely, per capita expenditure on elementary education, lavatory facility for girls and percentage of female teachers in primary schools have shown a lesser variation among the 25 per cent states having lowest values on these indicators as compared to the top 25 per cent states Reverse is the case in respect of the remaining five indicators where the bottom 25 per cent states appear to have lager variation than among the top 25 per cent states

3.3.7 The significant features of correlation between the eight variables have been pointed out in the forgone discussion The complete correlation matrix is given in Appendix II. The percentage of expenditure on elementary education (PCTEXP) appears to be commensurate with POVERTY with correlation between them .717 But the per capita expenditure on elementary education (PCAPEXP) does not keep pace with POVERTY as the correlation between the two is -.088. The infrastructure variables do not keep pace with POVERTY and in case of percentage of female teachers in primary schools (FETCHR), its correlation with POVERTY is -.711. States/Uts, which spend more in terms of per capita expenditure, provide their schools adequately with blackboards. This is borne by the fact that the correlation between PCAPEXP and BLACKB is .460. Though PCAPEXP has low positive correlation with most of the variables considered in this Section but with schooling facilities in rural areas (EDFACIL) and BUILDING it is negatively correlated The states/UTs which serve higher proportions of rural populations with educational facilities at primary level in their own habitations or

Figure 3.2(a) : Percentage of Expenditure on Elementary Education to Total Educational Expenditure (1995)



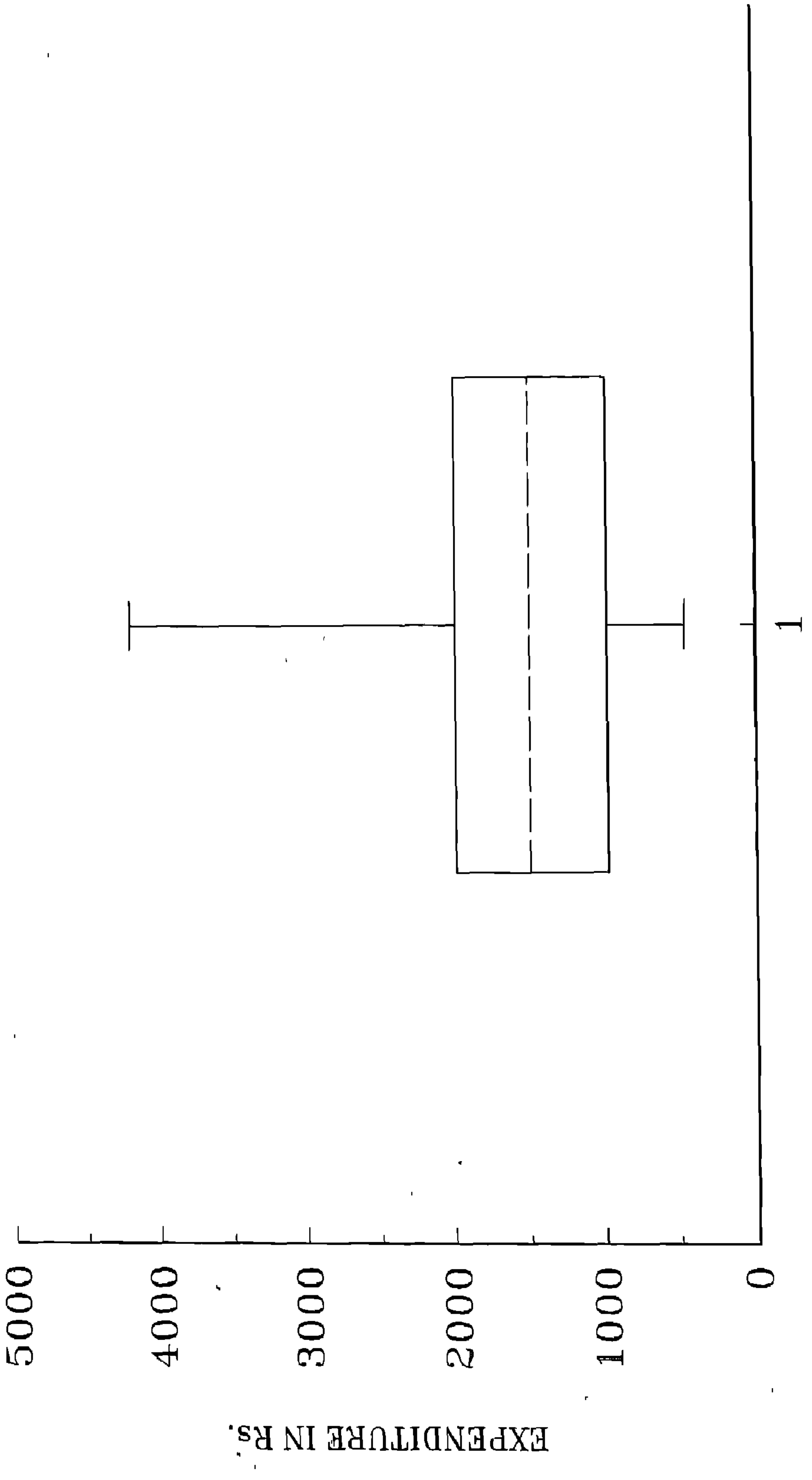
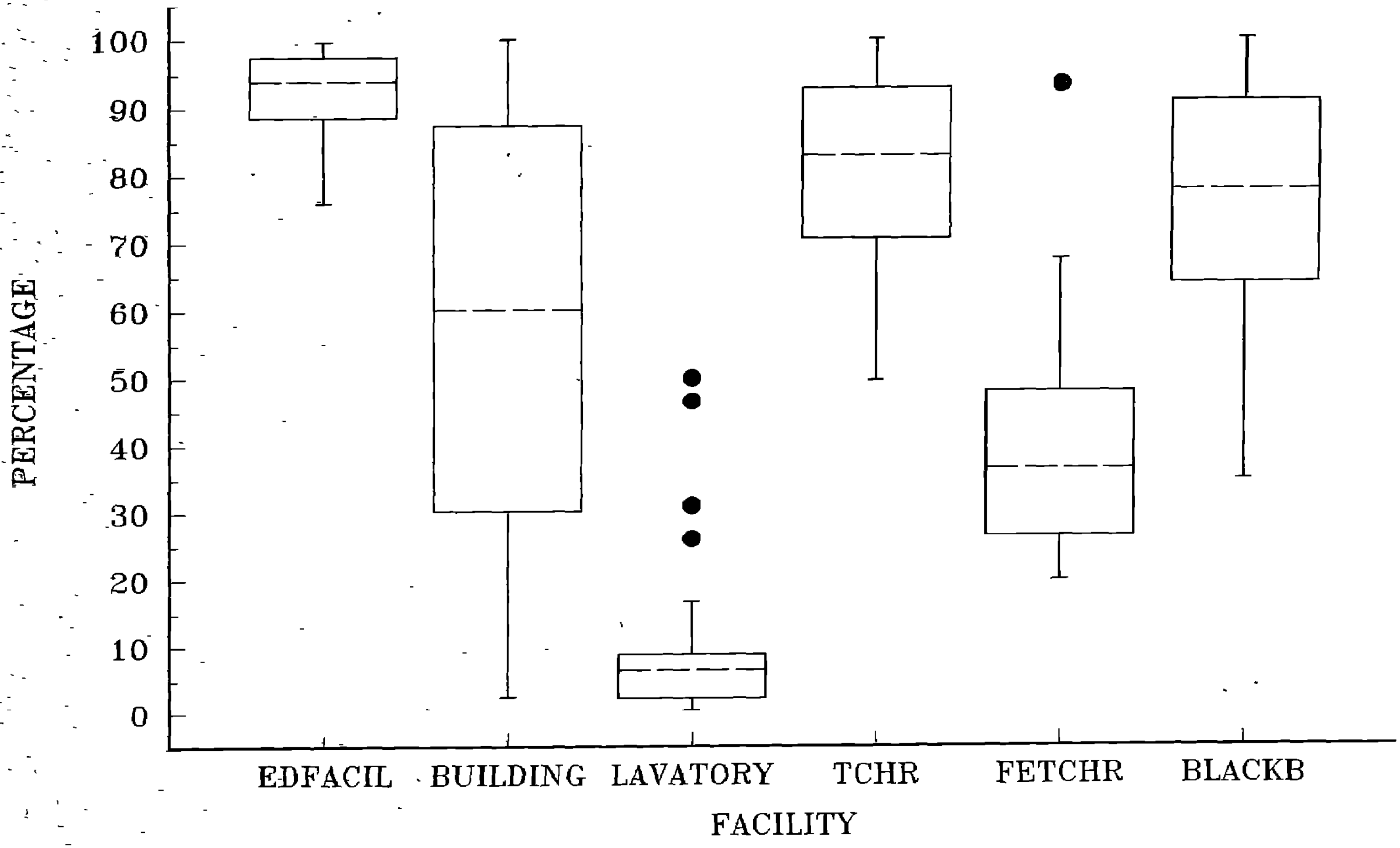


Figure 3.2(b): Percapita Expenditure on Elementary Education (1995)

Figure 3.2(c): Infrastructural Facilities in Primary Schools (1993)



within a distance of 1 km have their primary schools well provided with buildings indicated by a correlation co-efficient of 459 between EDFACIL and BUILDING. The financial inputs PCTEXP and PCAPEXP do not go well with EDFACIL which otherwise has positive correlation with other variables considered in this section Provision of lavatory facilities does not appear to have improved with the expenditure on elementary education as revealed by correlation of -.525 between PCTEXP and LAVATORY. However, TCHR, FETCHR and BLACKB show significant correlation of .512, 609 and .571 respectively with LAVATORY. TCHR does not appear to have improved with the expenditure on elementary education as the correlation between the two variables PCTEXP and TCHR is - 450 FETCHR has positive correlation with all the variables considered in this section except PCTEXP with which it has a negative correlation of -.673. BLACKB has a positive correlation with all the variables discussed in this section except PCTEXP. However, its correlation with PCAPEXP is .460

Table 3.12
Correlation Matrix of Financial and Infrastructure Inputs

Indicators	*PCTEXP*	*PCAPEXP*	*EDFACIL*	*BUILDING*	*LAVATORY*	*TCHR*	*FETCHER*	*BLACKB*
PCTEXP	1.000							
PCAPEXP	0.200	1 000						
EDFACIL	- 0.406	-0.225	1 000					
BUILDING	-0.352	-0 189	0 459	1 000				
LAVATORY	-0.525	0 093	0 248	0 299	1.000			
TCHR	-0.450	0 209	0 246	0 025	0 511	1 000		
FETCHER	-0.673	0.068	0 280	0 318	0 609	0.413	1 000	
BLACKB	-0.230	0 460	0.214	0.152	0 571	0 368	0.438	1 000

3.4.0 Indicators of State Policies on Incentive Schemes

3.4 1 Much of the success of the incentive schemes in the form of participation and retention of girls in primary education in a state/UT depends on the implementing policies of these schemes. For this purpose the following eight indicators given in Table 3.13 have been identified.

3 4.2 The meal-mode is an indicator of state policy on the MDM programme. It is dichotomous in nature indicating whether cooked meals are served to students. Target groups under various incentive schemes were identified through information collected from all the states/UTs Information on the number of beneficiaries under the four incentive schemes discussed in this report and their enrolment was collected during the Sixth All India Educational Survey (AIES) with reference date being September 30, 1993 (NCERT 1998) Percentages of beneficiaries under various schemes have been worked on these two sets of data.

TABLE 3.13
Indicators of Implementation of Incentive Schemes

Sl. No.	*Label*	*Indicator Description*	*Source*
1.	MEALMODE	Mode of implementing the Mid-Day Meal Scheme, Non-cooked meal = 0 & cooked meal= 1.	Information from states/UTs
2	TARGET-U	Target groups for free uniform, i.e. proportion of enrolment of classes at elementary stage for which free uniform scheme is implemented to total enrolment at the elementary stage .	NCERT, 1998, Information collected from states/UTs.
3	TARGET-T	Target groups for free text-books, i.e. proportion of enrolment of classes at elementary stage for which free textbooks/note books scheme is implemented to total enrolment at the elementary stage	NCERT, 1998, Information collected from states/ UTs
4	TARGET-A	Target groups of attendance scholarship scheme, i.e proportion of enrolment of classes at elementary stage for which attendance scholarship scheme is implemented to total enrolment at the elementary stage.	NCERT, 1998, Information collected from states/ UTs.
5.	BENF-M	Percentage of girl beneficiaries under mid-day meal scheme to total enrolment of girls (1993)	NCERT,1998d, 1998e.
6	BENF-U	Percentage of girl beneficiaries under free uniforms scheme to total enrolment of. girls (1993).	NCERT, 1998d, 1998e

Sl. No	*Label*	*Indicator Description*	*Source*
7.	BENF-T	Percentage of girl beneficiaries under free textbooks/ note books scheme to total enrolment of girls(1993)	NCERT,1998d, 1998e.
8	BENF-A	Percentage of beneficiaries under attendance scholarship for girls scheme to total enrolment of girls(1993).	NCERT, 1998d, 1998e

3.4.3 As reported earlier in Chapter Two, eight states/UTs do not have the scheme of free uniform. TARGET-U, the proportion of enrolment of elementary stage for which the scheme of free uniform is implemented to the total enrolment at the elementary stage, varies from 7 41 per cent in A & N Islands to 100 per cent in Tamil Nadu. Excluding the eight States/UTs which do not have this scheme the distribution of TARGET-U is shown in Table 3.14 and through the box-plot in Figure 3.3.

Table 3.14
States/UTs According to TARGET_U

TARGET-U(%)	*States/Union Territories*
20 or less	Bihar, Haryana, Himachal Pradesh, Karnataka, Mizoram, A & N Islands, Delhi
21-40	Gujarat, Madhya Pradesh, Meghalaya, Orissa, Rajasthan,Tripura, West Bengal, Chandigarh, Daman & Diu, Pondicherry
41-60	Goa
61-80	Arunachal Pradesh, Jammu & Kashmir, Sikkim, Dadra & Nagar Havelli
More than 80	Maharashtra, Tamil Nadu

3.4.4 TARGET-T, the proportion of enrolment of classes at elementary stage for which the scheme of free textbooks/notebooks is implemented to the total enrolement at this stage, ranges from 14.74 per cent in Delhi to 100 per cent in Assam, Sikkim and Tamil Nadu The distribution of TARGET_T is given in Table 3.15 as well as in Figure 3 3.

Table 3.15
States/UTs According to TARGET_T

TARGET-T (%)	*States/Union Territories*
20 or less	Mizoram, Delhi
21-40	Haryana, Kerala, Meghalaya, Orissa, Punjab,Tripura, Chandigarh, Daman & Diu, Pondicherry
41-60	Goa, Manipur, A & N Islands, Dadra & Nagar Haveli
61-80	Arunachal Pradesh, Bihar, Himachal Pradesh, Jammu & Kashmir, Karnataka, Madhya Pradesh, Maharashtra, Uttar Pradesh, West Bengal
More than 80	Andhra Pradesh, Assam, Gujarat, Nagaland, Rajasthan, Sikkim, Tamil Nadu, Lakshadweep

3.4.5 TARGET_A, the proportion of enrolment of classes at elementary stage for which attendance scholarship scheme is implemented to total enrolment at elementary stage, ranges from 1.79 per cent in Haryana to 67 80 per cent in Himachal Pradesh. Close at the heels of Haryana are Delhi (4.90%), Gujarat (6 00%) and Andaman & Nicobar Islands (8 14%). The distributional character of the variable is given in Table 3.16 and also depicted in Figure 3.3.

Table 3.16
States/UTs According to TARGET_A

TARGET_A (%)	*States/Union Territories*
10 or below	Gujarat, Haryana, A & N Islands, Delhi
11-20	Goa, Karnataka, Punjab, Pondicherry
21-30	Ttipura, Chandigarh, Daman & Diu,
31-40	Assam, Maharashtra
41-60	--
More than 60	Himachal Pradesh

TARGET-A is positively correlated with TARGET-U and BENF-A, the correlation co-efficients are 0 212 and 0.081 respectively but has a negative correlation with each of the other variables, as is evident from Table 3 21.

3 4 6 The MDM scheme was uniformly introduced in the country in 1995. Therefore, the percentage of beneficiaries in 1993 will be at variance with the position as in 1995 There is a large amount of variation among the states/UTs as shown by the distribution of BENF-M drawn in Table 3.17 which shows that the scheme covered small proportions of children in bigger states. The distribution of BENF_M is also depicted in Figure 3.4

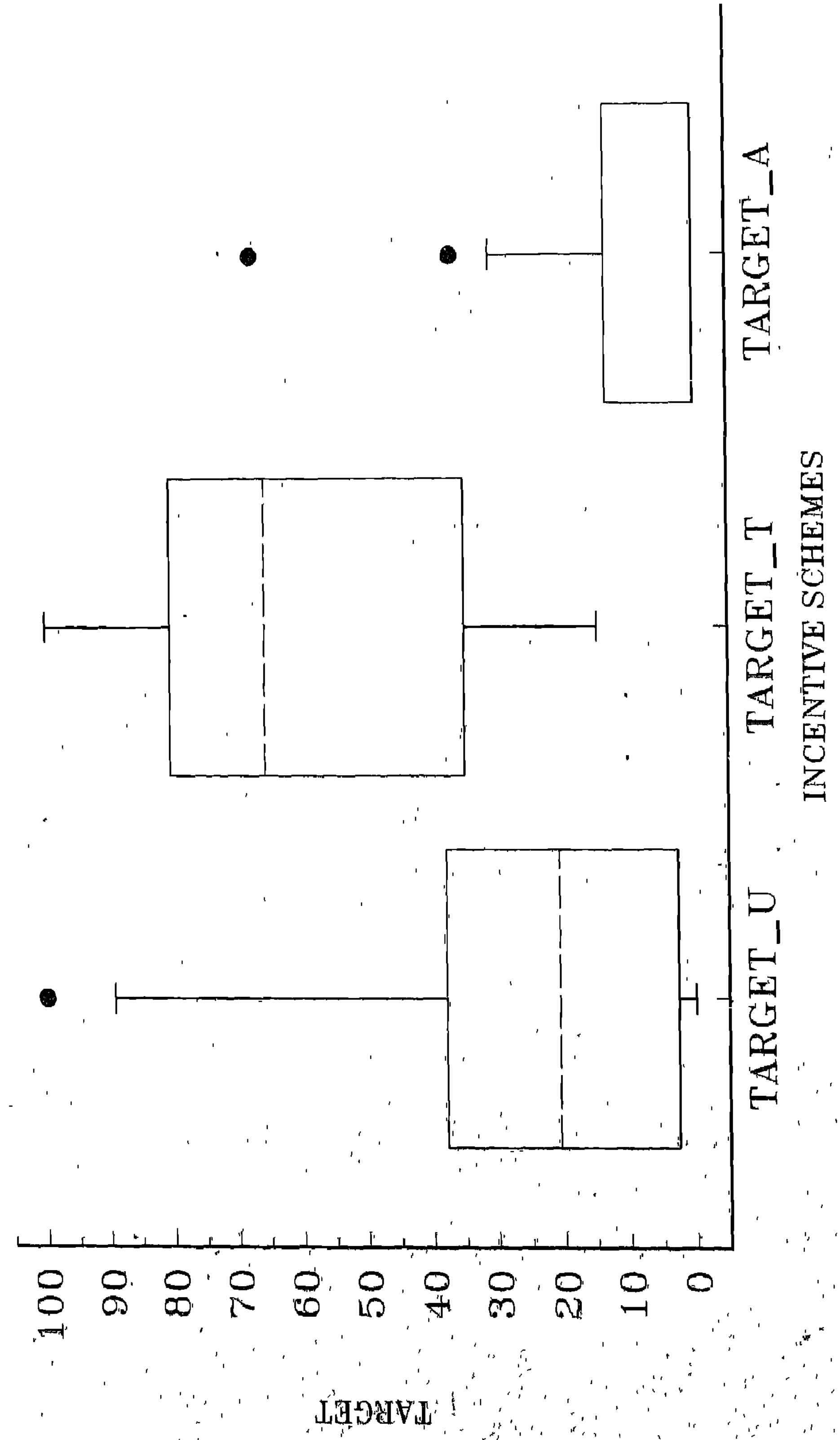


Figure 3.3: Targets Under Various Incentive Schemes

Figure 3.4: Percentage of Beneficiaries Under Various Incentive Schemes (1993)

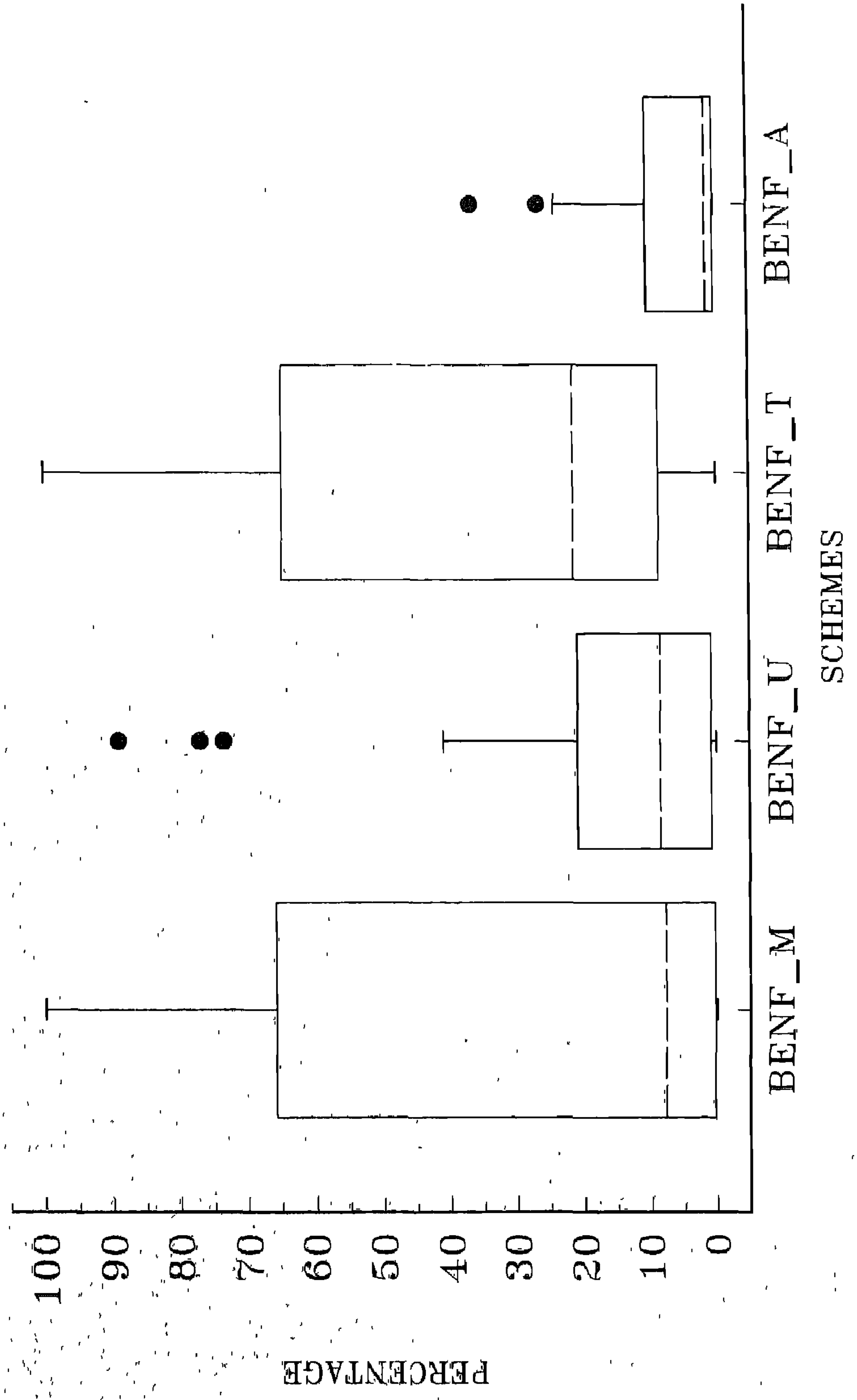


Table 3.17
States/UTs According to Percentage of Girl Beneficiaries under MDM to Total Enrolment of Girls (BENF_M)

BENF_M (%)	*States/Union Territories*
No beneficiaries	Meghalaya, Nagaland, Andhra Pradesh, Assam, Bihar,
less than 1	Haryana, Himachal Pradesh, Manipur, Orissa, Punjab, Uttar Pradesh
1-10	Jammu & Kashmir, Madhya Pradesh, Maharashtra, Mizoram, Rajasthan, West Bengal
11-20	Karnataka
21-30	Gujarat, Tamil Nadu
31-40	Kerala, Daman & Diu, Delhi
41-50	--
51-60	Goa,
61-70	--
71-80	Arunachal Pradesh, Chandigarh
81-90	Pondicherry
More than 90	Sikkim, Tripura, A & N Islands, Dadra & Nagar Haveli, Lakshadweep

3.4.7 Distribution of states/UTs on the variable BENF_U, percentage of girl beneficiaries under free uniform scheme to total enrolment of girls, is given in Table 3.18 as well as in Figure 3.4. It indicates that Nagaland and Lakshadweep did not report any beneficiary during 1993. On the other hand, Arunachal Pradesh, Pondicherry and Dadra & Nagar Haveli had more than 70 per cent beneficiaries.

Table 3.18

States/UTs According to Percentage of Girl Beneficiaries under Free Uniform Scheme to Total Enrolment of Girls (BENF_U)

BENF_U (%)	*States/Union Territories*
No beneficiaries	Nagaland, Lakshadweep
less than 1	Assam, Manipur, Meghalaya, Orissa, Punjab, Sikkim, Uttar Pradesh
1-10	Andhra Pradesh, Bihar, Goa, Himachal Pradesh, Kerala, Madhya Pradesh, Maharashtra, Mizoram, Rajasthan, Delhi
11-20	Gujarat, Karnataka, West Bengal, A & N Islands, Chandigarh
21-30	Haryana, Jammu & Kashmir, Tamil Nadu, Daman & Diu
31-40	--
41-50	Tripura
51-60	--
61-70	--
71-80	Arunachal Pradesh, Pondicherry
More than 80	Dadra & Nagar Haveli

3.4.8 In October 1998 all the states/UTs had the scheme of free textbooks/notebooks but it appears that five years earlier during the Sixth AIES, Nagaland did not have it. This is evident from the distribution of BENF_T, percentage of girl beneficiaries under free textbooks scheme to total enrolment of girls, given in Table 3 19 and also in Figure 3.4 Whereas, Arunachal Pradesh, Sikkim, Dadra & Nagar Haveli, Lakshadweep and Pondicherry had more than 70 per cent beneficiaries. Nagaland did not report any

Table 3.19
States/UTs According to BENF_T

BENF_T (%)	*States/Union Territories*
No beneficiaries	Nagaland
less than 1	Manipur, Mizoram, Uttar Pradesh
1-10	Bihar, Himachal Pradesh, Meghalaya, Rajasthan
11-20	Andhra Pradesh, Karnataka, Madhya Pradesh, Kerala, Maharashta, Orissa, Chandigarh
21-30	Assam,Gujarat,Haryana,Jammu & Kashmir, Punjab,Tamil Nadu, West Bengal
31-40	Daman & Diu
41-60	--
61-70	Goa, Tripura, A & N Islands, Delhi
71-80	Pondicherry
81-90	Arunachal Pradesh
More than 90	Sikkim, Dadra & Nagar Haveli, Lakshadweep

Table 3.20
States/UTs According to Percentage of Girl Beneficiaries under Attendance Scholarship Scheme to Total Enrolment of Girls (BENF_A)

BENF_A (%)	*States/Union Territories*
No beneficiaries	Nagaland, Dadra & Nagar Haveli, Lakshadweep
Less than 1	Arunachal Pradesh, Assam, Himachal Pradesh, Kerala, Manipur, Meghalaya, Mizoram, Orissa, Sikkim, Tamil Nadu, Uttar Pradesh, West Bengal
1-5	Andhra Pradesh, Bihar, karnataka, Rajasthan, A & N Islands, Delhi
6-10	Jammu& Kashmir, Madhya Pradesh, Maharashtra
11-15	Gujarat, Punjab
16-20	Goa
21-25	Haryana, Daman & Diu, Pondicherry
26-30	Chandigarh
31-35	--
More than 35	Tripura

3 4 9 The Sixth AIES shows beneficiaries under the scheme of attendance scholarship for girls in as many as 30 states/UTs. The percentage of beneficiaries (BENF_A) is generally low, as revealed by the Table 3.20, in comparison to the other three incentive schemes Nagaland, Dadra & Nagar Haveli and Lakshadweep did not have this scheme during 1993, whereas Tripura had more than 35 per cent beneficiaries The distribution of BENF_A is also depicted in Figure 3 4.

3.4.10 Obviously, the financial input PCTEXP, as evident from Appendix II should be commensurate with the targets and it is so in case of TARGET_T (r= 457) as it should have been in a situation when all the 32 states and UTs have scheme of free textbooks/note books. Similarly, PCAPEXP and BENF_M have a significant correlation of .594. We find that the BENF_M has a significant correlation of 0 542 and 0 880 respectively with BENF_U and BENF_T

Table 3.21
Correlation Matrix of Variables of State's Policy on Incentives

	MEALMODE	*TARGET_U*	*TARGET-T*	*TARGET-A*	*BENF-M*	*BENF-U*	*BENF-T*	*BENF-A*
MEAL MODE	1 000							
ARGET_U	063	1.000						
TARGET_T	- 029	.102	1 000					
TARGET_A	- 213	.212	- 023	1 000				
BENF_M	131	.183	- 158	- 120	1.000			
BENF_U	038	402	-.237	-.038	542	1 000		
BENF_T	.107	.245	- 083	- 194	880	546	1 000	
BENF_A	031	- 070	- 497	081	301	308	132	1 000

3.5.0 Output Indicators

3 5.1 The GER-G97 is defined as girls' enrolment at primary stage for the year 1997 divided by girls' population in the age group 6+ to 10+ for the year 1997 multiplied by 100 It ranges from 48 90 in Uttar Pradesh to 113.50 in Gujarat The Table 3.22 and Map 3.3 show placement of different states/UTs in respect of GER_G97.

Table 3.22
States/UTs According to Girls Enrolment Ratio (GER_G97)

GER_G 97	*States/Union Territories*
50 or less	Uttar Pradesh,
51-60	Bihar, Jammu & Kashmir
61-70	Manipur
71-80	Goa, Orissa, Tripura, A & N Islands, Chandigarh
81-90	Andhra Pradesh, Arunachal Pradesh, Haryana, Himachal Pradesh,Kerala, Madhya
81-91	Pradesh, Meghalaya, Nagaland, Punjab,Rajasthan, West Bengal, Dadra & Nagar Haveli, Daman & Diu, Delhi, Pondicherry
91-100	Lakshadweep
More than 100	Assam, Gujarat, Karnataka, Maharashtra, Mizoram, Sikkim, Tamil Nadu

3 5 2 The participation of girls in primary education is low i.e. 80 or less in A & N Islands, Bihar, Chandigarh, Goa, Jammu & Kashmir, Manipur, Orissa, Tripura and Uttar Pradesh. The distribution is slightly positively skewed as shown by the box-plot in Figure 3 5.

3 5.3 GPAR-97 is gender parity in GER for the year 1997, and is defined as (GER_G97 x 100)/GER-B97, where, GER-B97 is GER for boys at primary stage for the year 1997 As per Table 3.23 and Map 3.4, it ranges from 64.65 in Jammu and Kashmir to 103.36 in Punjab. As compared to GER_G97, it shows lesser amount of variation and is almost symmetrical about median.

Table 3.23
States/UTs According to Gender Parity in GER (GPAR_97)

GPAR_97	*States/Union Territories*
61-70	Bihar, Jammu and Kashmir, Uttar Pradesh
71-80	Arunachal Pradesh, Goa, Madhya Pradesh, Manipur, Orissa, Rajasthan, Tripura, A & N Islands, Dadra & Nagar Haveli, Pondicherry
81-90	Himachal Pradesh, Meghalaya, Mizoram, Nagaland, West Bengal, Chandigarh, Daman & Diu, Delhi, Lakshadweep
91-100	Andhra Pradesh, Assam, Gujarat, Karnataka, Kerala, Maharashtra, Sikkim, Tamil Nadu
Above 100	Haryana, Punjab

3.5.4 The co-efficient of correlation between the two variables GER-G97 and GPAR-97 is .738 indicating that gender parity increases as girls' enrolment increases.

3.5 5 The inter-correlations of indicators across the sub-components, given in Appendix II give the picture at National level. Per capita expenditure, PCAPEXP does not appear to be commensurate with the size of population of a State, POP (r= - 617). However, it does keep pace with the proportion of ST population (r = .599) but not with the proportion of SC (r= -.693) When we consider the percentage of population below poverty line, we find that 95th percentile of monthly private expenditure shows a negative correlation with it (r = -.480) showing thereby poverty inhibits higher private expenditure. However, a redeeming feature is that the per capita expenditure (PCAPEXP) is higher in States with higher percentage of population below the poverty line (POVERTY) (r = .717) The states, which have higher per capita expenditure, have higher percentage of MDM beneficiaries They are even better provided with blackboards.

Map 3.3 States/UTs According to Gross Enrolment Ratio of Girls (1997)

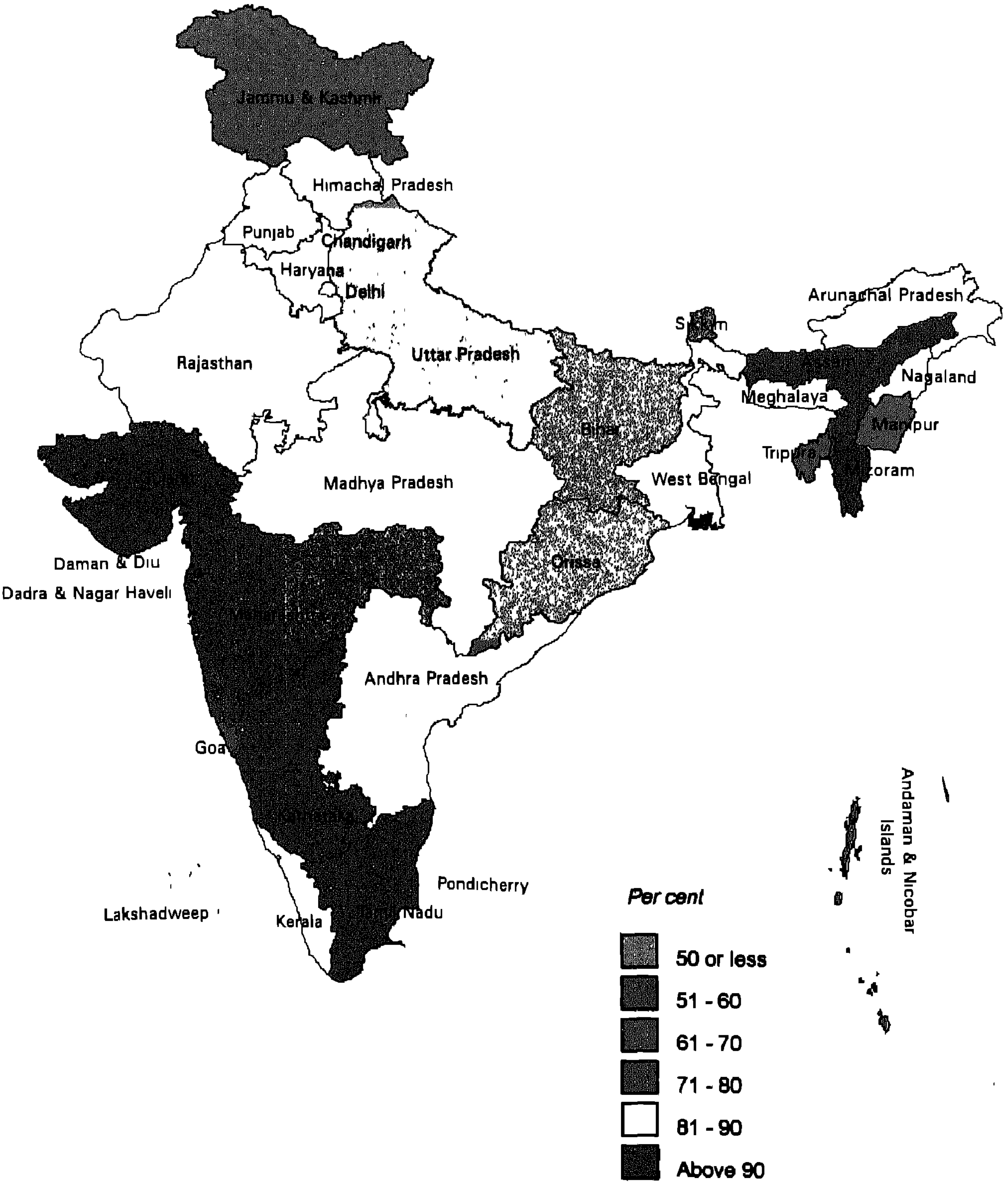
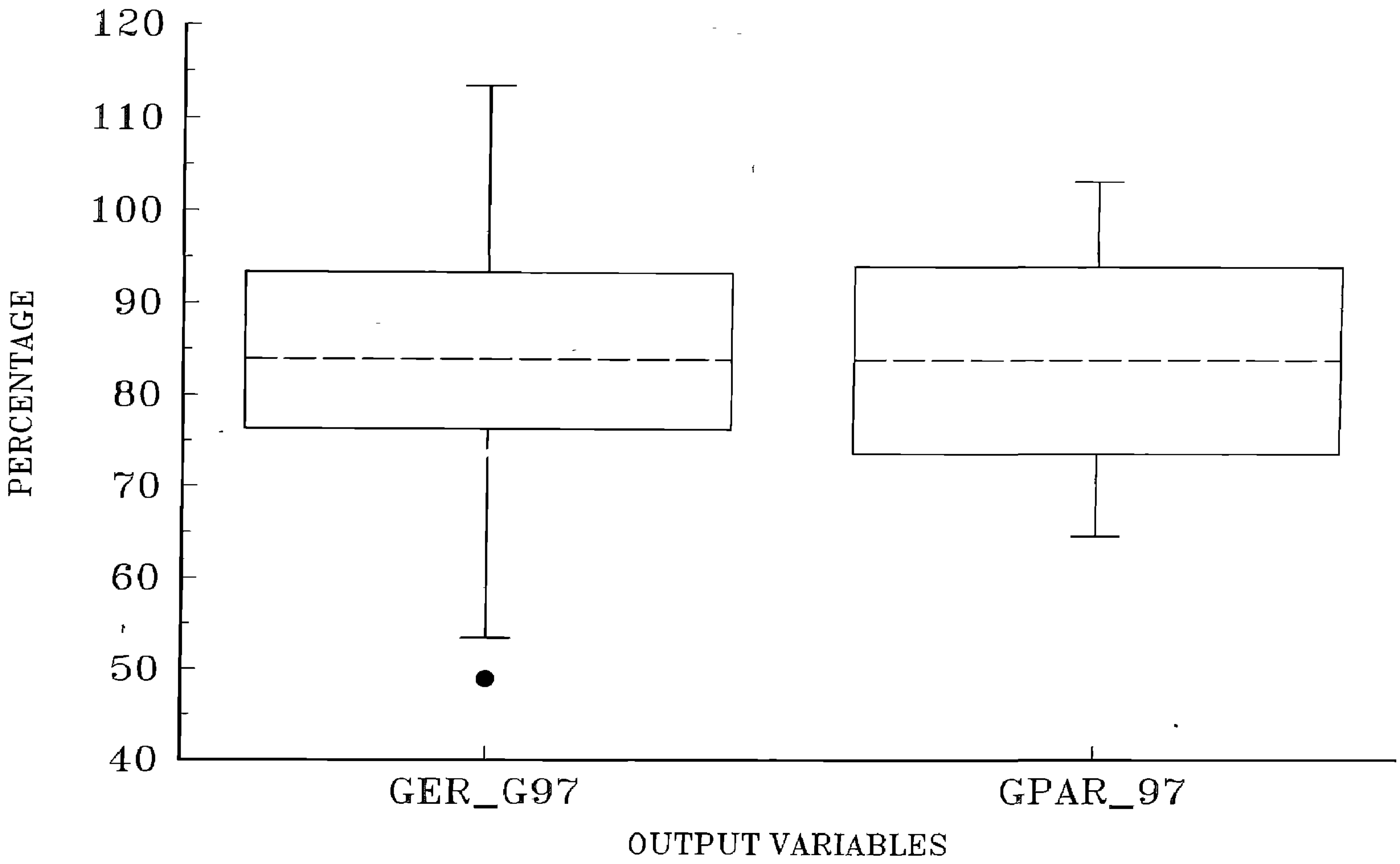
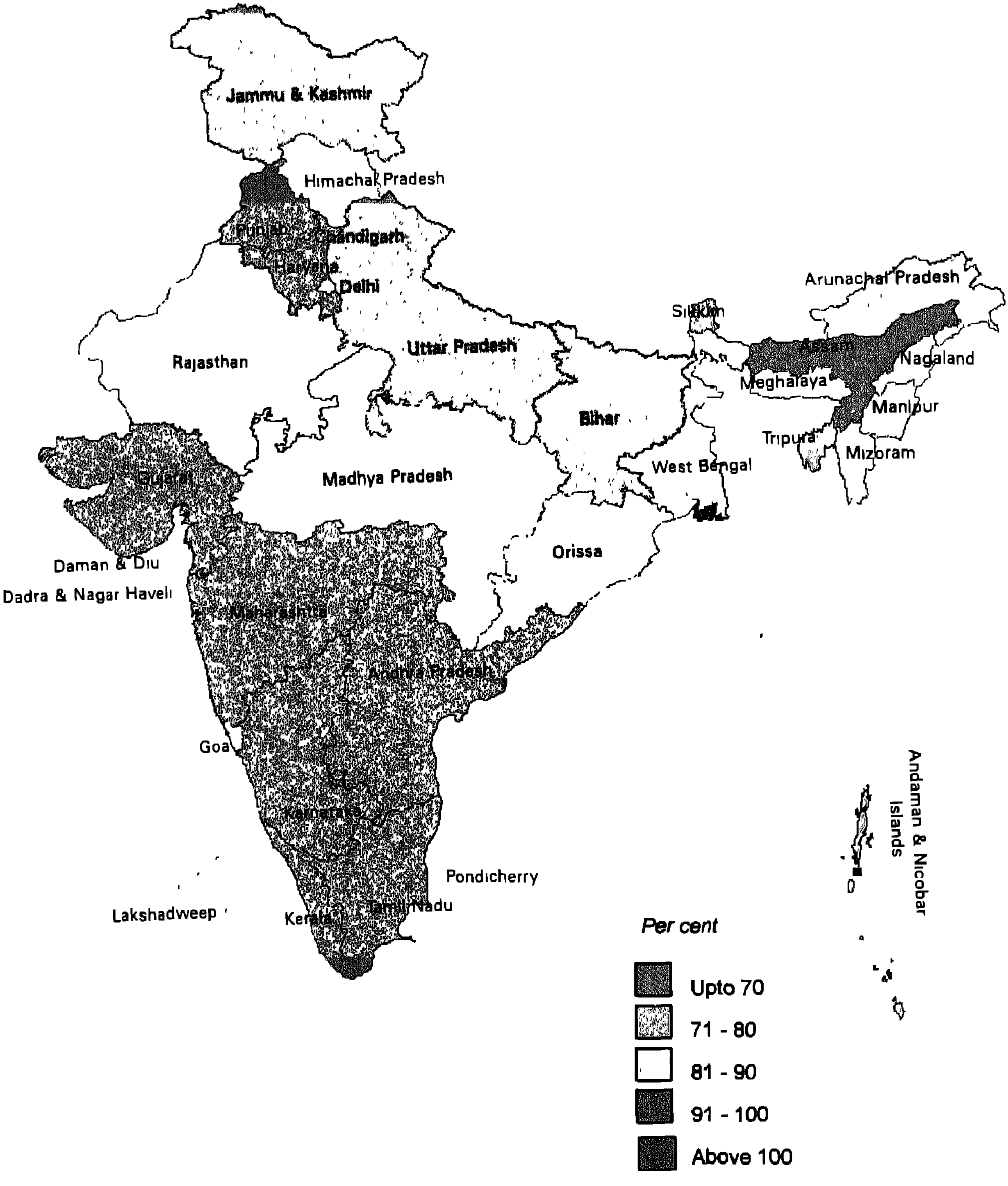


Figure 3.5: Distribution of Output Variables



Map 3.4 States/UTs According to Gender Parity in GER (1997)



CHAPTER FOUR

Factors Contributing to Girls' Participation at the State Level

4.1.0 Introduction

4.1 1 In the preceding chapter, 23 variables were considered for depicting profile for thirty two states and UTs with regard to demographic, social, economic, expenditure on primary education, educational input and participation of girls in primary education Their distribution and interrelationship were studied to provide insight into degree of variation in each variable across the states and UTs. This analysis provided some indications that the variables are capable of depicting the nested dependence between them An attempt in this direction might help in establishing linkages between variables specifically the linkages of incentives with the girls' participation at primary stage of education, the main focus of the study The present chapter, therefore, attempts to estimate the contribution of state level factors affecting the girls' participation at the primary stage The approach adopted to achieve the stated purpose is based on the multivariate causal modeling due to Simon (1957) and Blalock (1967). The estimate of contribution of individual factors obtained using this model will throw light on the efficacy of incentives in enhancing girls' participation and reducing the gender gap at the primary stage of education

4 1 2 For this purpose, the four criterion variables depicting girls' participation in education at primary stage, comprised girls' enrolment ratio for the year 1997 (GER_G97), gender parity in GER for the year 1997 (GPAR_97), change in girls' GER from 1991 to 1997 (CHGER) and change in gender parity in GER during the same period (CHGPAR). The last two variables, namely, CHGER and CHGPAR were considered for inclusion to study the effect of incentives on change in the first two criterion variables during the Eighth Five Year Plan (1992-97)

4.1 3 Prior to establishing linkages between variables, the explanatory variables given in Chapter Three were classified into two categories, viz. (i) Exogenous and (ii) Endogenous. Further, keeping in view the stated focus of the study, it became imperative to avoid bidirectional(non-recursive) linkages between them. This is achieved by using the concept of input, process and output in temporal sequence. That is the exogenous variable values pertained to the year 1991 and values of endogenous ones for the year 1993. Similarly, the values of criterion variables pertained to the year 1997. Under this arrangement, the linkages between variables were kept unidirectional (recursive). It resulted in avoidance of complex analysis of data and enhanced comprehensiveness of results

4.1 4 The explanatory variables considered in Chapter Three under each category, were too many to provide statistically valid results. The factor analysis was attempted to reduce the number of variables. The data analysis at the initial stage failed to provide sufficient evidence in favour of the use of this technique. The value of K M O. statistics, an indicator due to Kaiser (1974), was very low in each case, i.e below 0.60. It, therefore, did not suggest the use of factor analysis. The only option left for making a selection of some variables was to use some other approach. Thus, the earlier evidence of their relationship mainly governed the selection of explanatory indicators for the proposed analysis. The review of related literature indicated absence of a study in Indian context using the states/UTs as measurement unit to estimate contribution of socio-economic and educational variables. The studies due to Saxena (1972), and Saxena and Mittal (1985), though, using districts and blocks as units of measurement, did provide some insight into selection of variables. In this process, discussions on their distribution and interrelationship given in the preceding chapter also served as the basis for the selection of indicators. The other criterion was to have safeguard from high degree of multicollinearity, which causes inconsistency in estimates This whole exercise was made to keep the number of variables to the minimum, which was necessary to avoid optimistic estimates of linkages.

4 1.5 The exogenous variables considered for the analysis are listed in Table 4.1. Three indicators viz., percentage of state population (POPN), percentage of SC population (SCPOP) and percentage of ST population (STPOP) indicated the demographic context of a state. The variables, which indicated the economic background of a state, are POVERTY and per capita expenditure on elementary education (PCAPEXP).

Table 4.1
List of Exogenous Variables Considered for the Path Analysis

Sl No	*Variable label*	*Variable definition*
1	POPN	% of state population to the country's population
2.	SCPOP	% of SC population to the total population of a state
3.	STPOP	% of ST population to the total population of a state
4.	POVERTY	% of people below poverty line
5	PCAPEXP	Expenditure on elementary education divided by the enrolment at elementary stage

4.1.6 The endogenous variables included in the analysis are classified into three constructs. These are (i) Educational inputs, (ii) States' policy on incentives and (iii) Beneficiaries of incentives. The educational inputs defined by schooling facilities for primary stage in rural areas (EDFACIL) and percentage of female teachers in primary schools (FETCHR) are given in Table 4.2 Further, variable FETCHR depends on EDFACIL and both the variables depend upon exogenous variables. The variables representing the target under each scheme depict state policy in terms of percentage of enrolment of those for whom the incentive was designed to total enrolment of elementary stage Whereas, variables regarding beneficiaries under a incentive scheme represent the percentage of girl beneficiaries to total enrolment of girls in primary schools. These are listed in Table 4 3.

Table 4.2
List of Endogenous Variables Indicating Educational Inputs of State/UTs

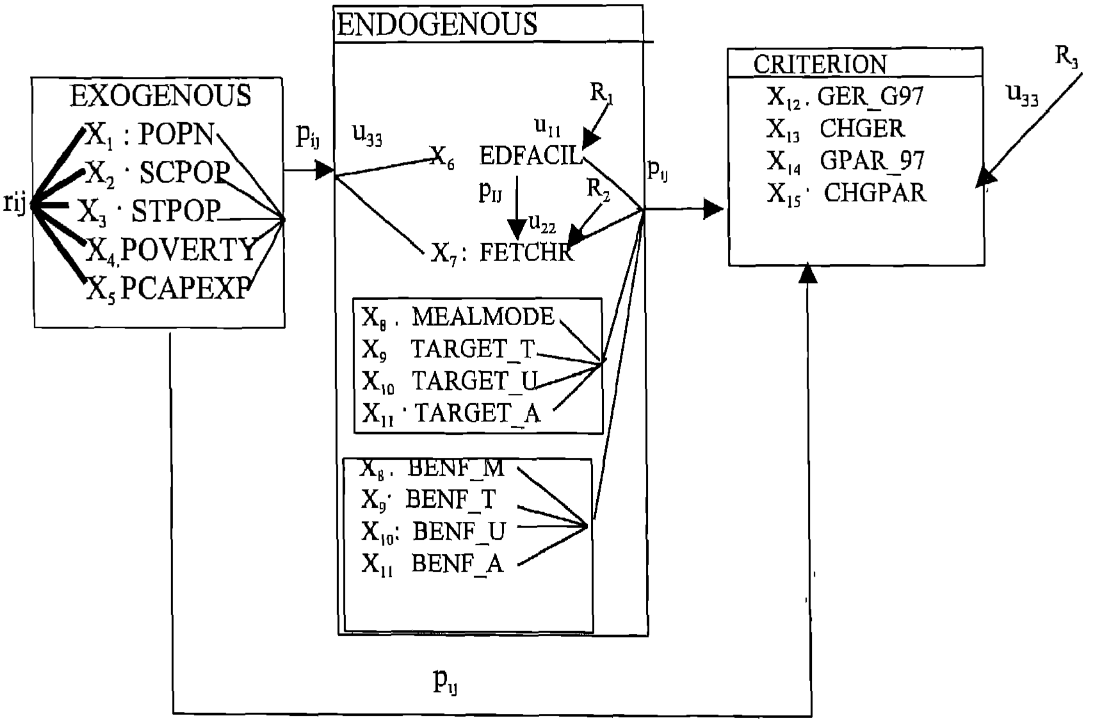
Sl No	*Variable label*	*Variable definition*
1.	EDFACIL	% of rural population served by primary schools/sections within 1 km.
2.	FETCHR	% of female teachers in primary schools

Table 4.3
List of Endogenous Variables Representing Policy and Practice in respect of Incentives

Sl No	*Variable label*	*Variable definition*
1.	MEALMODE	Non-cooked meal =0 , cooked meal=1
2.	TARGET_T	% of enrolment of targeted beneficiaries under free textbooks to total elementary stage enrolment
3.	TARGET_U	% of enrolment of targeted beneficiaries under free uniform to total elementary stage enrolment
4.	TARGET_A	% of targeted beneficiaries of attendance scholarship scheme to total elementary stage enrolment
5	BENF_M	% of girl beneficiaries under MDM to total enrolment of girls
6	BENF_T	% of girl beneficiaries under free textbooks to total enrolment of girls
7	BENF_U	% of girl beneficiaries under free uniform to total enrolment of girls
8	BENF_A	% of beneficiaries under attendance scholarship for girls to total enrolment of girls

4.1 7 The variables within and across the constructs are known to have a nested relationship. Besides, estimates of strength of linkage of individual variables with others are likely to be over/under adjusted when effects of other variables are partialled out. The over/under adjustment depends upon strength of association between the variables For example, the closely associated variables with the criterion variable tend to take away contribution of the other variables having far less association if both the variables have strong bonds. Further, the two constructs on incentives, i.e (i) states' policy and (ii) beneficiaries could not be put in temporal sequence because of limitation of data availability. It was, therefore, considered worthwhile to treat both the constructs separately to reduce the effect of nested relationship between the variables of the two constructs. The linkages among the variables for policy and beneficiaries are separately indicated in Figure 4 1 The set of structural equations for both the constructs are also given in the same figure

Figure 4.1 Arrow Diagram and Structural Equation for Girls' Participation in Primary Education at State Level



$$X_i = \sum_{j=1}^{m} p_{ij} X_j + u_{kk} R_k$$

Where, $m = 5, k=1$ for $i = 6$, $m= 6, k=2$ for $i = 7$; $m = 11, k=3$ for $i = 12,\ldots, 15$; and p_{ij} is the path coefficient for ith and jth variables, u_{kk} is the path coefficient for the ith variable's random component (R_k) and r_{ij} is the correlation between exogenous variables

Note: Straight thin lines indicate relationship of dependent variable with independent variable and thick lines indicate correlations between exogenous variables

4.2.0 Analysis Procedure

4.2.1 In order to fulfil the requirement of the path analysis all the variables were standardised, i.e. transformed to mean *zero* and standard deviation *one* Then these values were used in the mulitiple linear regression analysis for estimation of path coefficients. The estimated values of multiple correlation coefficient (R), for each linear regression was subjected to test of significance to establish the model's efficacy. If the statistical test did not provide evidence that the value of R as zero, then further analysis was undertaken. Further, only those p_{ij}'s were included in the path analysis which provided statistically significant estimates at 5 per cent or lower than 5 per cent level of significance.

4.2.2 The values of variables for the 32 states and UTs when subjected to the above analysis indicated that none of the values of multiple correlation (R) for the six dependant variables presented in Table 4.4 was significant at 5 per cent level except that for FETCHR (percentage of female teachers in primary schools). Figure 4.2 clearly shows that the FETCHR variable among the set of six independent variables, too has provided only one variable, i e. POVERTY, which is contributing significantly to the variation in FETCHR. This fact is reflected by the high negative value of Pearson's correlation coefficient (-0.711) given in Appendix II, which thereby indicated that the states/UTs having high percentage of people living below poverty line in 1991 had low percentage of female teachers. The position remained the same in the case of the percentage of 'beneficiaries' construct. Thus the data of the 32 states/UTs failed to fit the model

Table 4.4
Multiple Correlations, their Adjusted Values and Significance Level for the Structural Equations

Sl No	*Dependent Variable*	*Value of R*	*Adjusted R^2*	*Significance level of F*
1.	EDFACIL	0.464	0,064	0,249
2.	FETCHR	0 714	0 392	0.004
3.	GER_G97	0.602	0 012	0 455
4.	GPAR_97	0.652	0 109	0.272
5.	CHGER	0.381	-0 325	0.975
6.	CHGPAR	0 687	0.181	0.167

4.2.3 Wide gap between R^2 and adjusted R^2, as evident from Table 4.4, indicated that the number of values for each variable, i e 32, were grossly inadequate. Besides, the distribution of values of each variable, as discussed in the preceding chapter, was quite asymmetrical. It is evident from the fact that each of the 17 states/UTs had up to one per cent population of the country's total population Further, the smaller states/UTs are better placed than the bigger states in regard to economy and education. It indicates that the smaller the states, the better the inputs are managed. Thus, failure of fitting the model could be attributable to small number of observations, asymmetry in distribution over and above the uneven size of states and UTs.

4.2.4 The above mentioned deficiency, i.e., of small number and of uneven size, could be resolved by considering district level data. To maintain homogeneity amongst districts with respect to population, stratified random sampling could be resorted to for selection of districts by using the method of proportional allocation This approach could not be used because of non-availability of district level data. An alternative to it, though statistically crude one, was attempted by keeping underlying principle the same. The purpose is achieved by providing higher representation to bigger states by repeating values of all the variables by the number of times equal to the percentage of population of a state (POPN). The states/UTs with value of POPN less than 1 were represented once in the data set This process generated 112 records for the analysis. Let us refer this data set as adjusted one.

4.2.5 The Table 4.5 presents *mean* and *standard deviation* for unadjusted, i.e. for 32 records and adjusted, i.e for 112 records. It is evident from the table that heterogeneity in the variables has been reduced due to the adjustment. Further, the *mean* values of each variable in the case of unadjusted data set, was very much different from those for the country as a whole. The attempted adjustment brought *mean* value of each variable closure to the value for the country as a whole.

Table 4.5
Mean and Standard Deviation of Variables prior to and after Adjustment for Size of States/UTs

Variable	*Mean Unadjusted*	*Mean Adjusted*	*Std Dev. Unadjusted*	*Std. Dev. Adjusted*
SCPOP	11.29	15.06	8.64	6.46
STPOP	23.06	12.12	31.44	19.01
POVERTY	32.31	36.50	9.40	9.54
PCAPEXP	701.06	950.56	531.91	334.51
EDFACIL	92.53	93.66	6.34	4.59
FETCHR	40.02	33.51	17.06	13.42
MEALMODE	0.31	0.29	0.47	0.45
TARGET_U	30.17	30.98	29.56	33.21
TARGET_T	62.85	72.41	28.15	20.73
TARGET_A	14.67	12.97	25.20	24.29
BENF_A	29.93	12.67	37.48	23.81
BENF_T	32.00	17.51	31.89	20.43
BENF_U	16.04	10.21	23.24	14.22
BENF_A	6.48	4.03	9.87	6.53
GER_G97	85.22	83.1	15.54	20.39
CHGER	-8.23	-7.15	20.70	19.63
GPAR_97	83.46	82.75	10.91	12.66
CHGPAR	2.04	9.33	15.29	14.37

4.2.6 Besides these, the first step in fitting the structural equations indicated that *multiple correlation coefficients* (R) given in Table 4.6 for all the equations except that of CHGER (change in girls GER at primary stage) for both the constructs are significant at less than 1 per cent level of significance The criterion variables CHGER in both the constructs provided value of R significant at more than 5 per cent level. That is, variation in the change in girls' enrolment ratio from 1991 to 1997 (CHGER) has a major contribution of random component because GER of girls has already reached saturation point. Perhaps this might be the reason for getting very low value of R^2. The adjusted R^2 in Table 4.6 are close to R^2 than those reported in Table 4.4. Further all the structural equations explained more than 40 per cent variations in the dependent variables, even under the case when adjustment for sample size and for number of independent variables was applied. The only two variables in which independent variables failed to explain the variations below 40 per cent are EDFACIL (availability of schooling facility in rural areas) and CHGER with corresponding values as 9.4 per cent and 7.5 per cent. Still, the value of multiple correlation remained statistically significant Only CHGER variable for both the constructs failed to provide evidence for non-zero estimate of R. Thus the procedure adopted for providing adjustment for the size of the state did resolve the above mentioned problems though the method remained statistically crude.

Table 4.6
Multiple Correlation Coefficients, Square of their Adjusted Values and their Level of Significance

Sl. No.	*Dependent variable*	*R*	*Adjusted R^2*	*Significance level of F*
1	EDFACIL	0.356	0.094	0.006
2	FETCHR	0.699	0.464	0.000
A: Construct: State Policy on Incentive				
3.	GER_G97	0.854	0.702	0.000
4	GPAR_97	0.830	0.658	0.000
5.	CHGER	0.398	0.075	0.054
6	CHGPAR	0.675	0.401	0.000
B: Construct: Beneficiaries under Incentive				
7.	GER_G97	0.691	0.426	0.000
8.	GPAR_97	0.783	0.575	0.000
9.	CHGER	0.352	0.037	0.179

4.3.0 Impact of State Policies on Girls' Enrolment

4.3.1 It can be seen from Figure 4.2 that 87 3 per cent and 51.2 per cent of variation in availability of schooling facilities for primary stage in rural areas (EDFACIL) and percentage of female teachers (FETCHR) respectively remained unexplained by the variation in exogenous variables. Similarly, 27 1 per cent variation in Gross Enrolment ratio for girls (GER_G97) could not be explained by variation in exogenous and endogenous variables. Still the mathematical model provided statistical significant association between variables

4.3.2 The Table 4.7 depicts the estimates of direct and indirect effects of explanatory variables on GER_G97 On average, a decrease of one standard deviation in the value of each of the exogenous variables except STPOP tends to increase girls' gross enrolment ratio (GER_G97) by more than 22 per cent of its standard deviation. The percentage of ST population (STPOP) indicated positive association with the GER_G97. Further, availability of educational facility in rural areas also provided evidence of its positive association with the GER_G97.

Table 4.7
Estimate of Direct and Indirect Effects of Explanatory variables on GER_G97

Variable	*Direct Effect*	*Indirect Effect*	*Total Effect*
1. PCAPEXP	-0.160	-0.065	-0.225
2. POVERTY	-0.296	-0 040	-0 336
3 STPOP	0 201		0.201
4. SCPOP	-0 265		-0.265
5. EDFACIL	0 175		0 175
6. MEALMODE	0.216		0 216
7. TARGET_T	0.162		0.162
8 TARGET_U	0 398		0.398
9. TARGET_A	0.212		0 212

4 3.3 The variation in state policy on each of the four incentive schemes did provide evidence of positive association with the girls' Gross Enrolment ratio (GER_G97) as is evident from Table 4.7. In the case of MDM scheme, the variable MEALMODE provided evidence that cooked meal option, on an average, was found in those cases, which had higher GER_G97 by 21 6 per cent of its standard deviation. In the case of the remaining three incentive schemes, the data provided statistically significant evidence that the broader the coverage, the higher was the value of GER_G97 In quantitative terms, the value of GER_G97, on average, is likely to increase by 16.2 per cent, 39.8 per cent and 21 2 per cent of its standard deviation of the values of coverage if values of free textbooks/notebooks (Target_T), free uniform (Target_U) and attendance scholarship to girls (Target_A),are respectively increased by their one standard deviation

4.3.4 The criterion variable for gender parity in enrolment at primary stage (GPAR_97) did also provide sufficient evidence for its linkages with explanatory variables The Figure 4.3 indicates that only 31 1 per cent of its variance, remained as unexplained by the explanatory variables.

The Table 4 8 indicates that among the exogenous variables, only POVERTY and per capita expenditure on elementary education (PCAPEXP) provided evidence of their linkages with the gender parity in primary stage enrolment POVERTY has direct as well as indirect effect with corresponding path coefficients as -0 474 and -0.046 whereas PCAPEXP has only indirect effect of the order of -0.074. Among the endogenous variables, EDFACIL, MEALMODE and TARGET_U provided significant positive association with GPAR_97. The states with cooked meal and broader base of Free Uniform scheme by an amount of one standard deviation might have higher gender parity by 14 1 per cent and 28.8 per cent of their respective standard deviation

variables, EDFACIL, MEALMODE and TARGET_U provided significant positive association with GPAR_97. The states with cooked meal and broader base of Free Uniform scheme by an amount of one standard deviation might have higher gender parity by 14 1 per cent and 28.8 per cent of their respective standard deviation.

Table 4.8
Estimate of Direct and Indirect Effects of Explanatory Variables(Target) on GPAR_97

Variable	*Direct Effect*	*Indirect Effect*	*Total Effect*
1. PCAPEXP	-	-0.074	-0.074
2. POVERTY	-0.474	-0 046	-0.520
3 EDFACIL	0.199	-	0.199
4. MEALMODE	0 141	-	0.141
5. TARGET_U	0.288	-	0.288

4.3.5 The linkages of change in gender parity (CHGPAR) in enrolment at the primary stage over the Eighth Five Year Plan Period (1991-1997) has been examined to identify factors having long term effect The Figure 4 4 indicates that 54 5 per cent of variation in CHGPAR remained unexplained by the explanatory variables.

In this case also, POVERTY and PCAPEXP (per capita expenditure on elementary education), as indicated in Table 4.9 have negative association with change in gender parity in GER (CHGPAR). On average, there would be an increase of 8 7 per cent and 23 8 per cent of the standard deviation in CHGPAR if each of these decreased by one standard deviation. Besides these two variables, STPOP has also indicated positive linkage with the change in gender parity. EDFACIL, FETCHR and TARGET_T are the endogenous variables provided their association with the CHGPAR It may be noted that an increase of one standard deviation in the scope of free textbooks scheme would, on average, increase the change in gender parity by 30.2 per cent of its standard deviation.

Table 4.9

Estimate of Direct and Indirect Effects of Explanatory Variables (Target) on CHGPAR

Variable	*Direct Effect*	*Indirect Effect*	*Total Effect*
1. PCAPEXP	-	-0.238	-0.238
2 POVERTY	-0.234	0.147	-0.087
3. STPOP	-	0.164	0.164
4 EDFACIL	0.394	-0.076	0.318
5 FETCHR	-0.432	-	-0.432
6 TARGET_T	0.302	-	0.302

4.4.0 Linkages of Girls' Participation with Incentives Girls Beneficiaries

4.4.1 Variation in girls gross-enrolment ratio (GER_G97) remained unexplained, as can be seen from Figure 4.5, to the extent of 52.2 per cent when percentage of girl- beneficiaries were included in the causal model in place of policy related indicators on the four incentives. Except SCPOP, none of the exogenous variables indicated direct linkages with the GER_G97. Among the endogenous variables, EDFACIL indicated both direct and indirect effects whereas FETCHR, BENF_M and BENF_T provided only direct linkages

4.4.2 Girls' gross-enrolment ratio is likely to increase by 30.7 per cent of its standard deviation when, on average, percentage of SC population decreases by its one standard deviation as is evident from Table 4.10. In indirect linkages provided by the other exogenous variables through EDFACIL and FETCHR with the GER_G97 were of the same type but having lower values of path coefficient than that of SCPOP. Further, the percentage of beneficiaries under MDM (BENF_M) has shown negative association with GER_G97. It may be because of the fact that only 29 per cent cases had cooked meal serving under MDM programme, i.e. in 71 per cent cases students received either pre-cooked food or food grains The free textbooks/notebooks scheme did provide evidence of its positive association with the girls' gross-enrolment ratio. On average, one standard deviation increase in BENF_T has shown an increase of 46.6 per cent of the standard deviation of GER_G97.

Table 4.10

Estimate of Direct and Indirect Effects of Explanatory Variables (Beneficiaries) on GER_G97

Variable	*Direct Effect*	*Indirect Effect*	*Total Effect*
1. POVERTY	-	-0.207	-0.207
2. STPOP	-	-0.089	-0.089
3. PCAPEXP	-	-0.077	-0.077
4. SCPOP	-0.307	-	-0.307
5 EDFACIL	0.342	0.042	0.384
6. FETCHR	0.235	-	0.235
7 BENF_M	-0.440	-	-0.440
8. BENF_T	0.466	-	0.466

4 4.3 The causal model for the gender parity (GPAR_97) in enrolment at primary stage, as depicted in Figure 4 6, indicated that 38 7 per cent of its variation remained unexplained by the explanatory variables. Further, like girls' gross-enrolment ratio (GER_G97), only one exogenous variable, namely, POVERTY could provide its direct as well as indirect effect. The other exogenous variables provided statistically significant linkage are STPOP and per capita expenditure on elementary education (PCAPEXP).

4 4.4 It can be seen from Table 4.11 that the variables STPOP and PCAPEXP, on average, provided their effect to the order of –0 138 and –0.040 respectively. Whereas, the total effect of POVERTY is indicative of increase by 56 7 per cent of its standard deviation of gender parity when it is decreased by its one standard deviation like girls' gross-enrolment ratio (GER_G97), gender parity in enrolment(GPAR_97) indicated negative association with the BENF_M On the other hand, percentage of girl- beneficiaries under free textbooks/notebooks indicated positive association with gender parity when effects of other explanatory variables are kept constant.

Table 4.11
Estimate of Direct and Indirect Effects of Explanatory Variables (Beneficiaries) on GPAR_97

Variable	*Direct Effect*	*Indirect Effect*	*Total Effect*
1 POVERTY	-0.296	-0 271	-0 567
2 STPOP	-	-0 138	-0.138
3. PCAPEXP	-	-0 040	-0 040
4. EDFACIL	0 316	0.064	0 380
5 FETCHR	0.363	-	0.363
6. BENF_M	-0.488	-	-0 488
7. BENF_T	0.509	-	0.509

4.4 5 The Figure 4 7 indicates linkages of change in gender parity (CHGPAR) over a period between 1991 and 1997. Quite a substantial amount of variation (58.7 %) in CHGPAR remained unexplained by the explanatory variables under the causal model. But proportion of explained variation in CHGPAR remained statistically significant. The two exogenous variables, namely, POVERTY and STPOP, registered direct and indirect linkage with the CHGPAR Indirect effects of POVERTY on CHGPAR were through schooling facilities in rural areas (EDFACIL) and percentage of female teachers in primary schools (FETCHR), whereas STPOP had through only FETCHR. Among the endogenous variables, none pertaining to the four incentives provided statistically significant path coefficient to indicate their linkages with CHGPAR. The magnitude of effect of each variable is presented in Table 4 12

Table 4.12
Estimate of Direct and Indirect Effects of Explanatory Variables (Beneficiaries) on CHGPAR

Variable	*Direct Effect*	*Indirect Effect*	*Total Effect*
1. POVERTY	-0.426	0.291	-0.135
2. STPOP	-0.306	0.265	-0.041
3. PCAPEXP	-	-0.297	-0.297
4. EDFACIL	0.403	-0.124	0.279
5. FETCHR	-0.699	-	-0.699

Figure 4.2 Linkages of GER_G97 with Estimated Path Coefficient

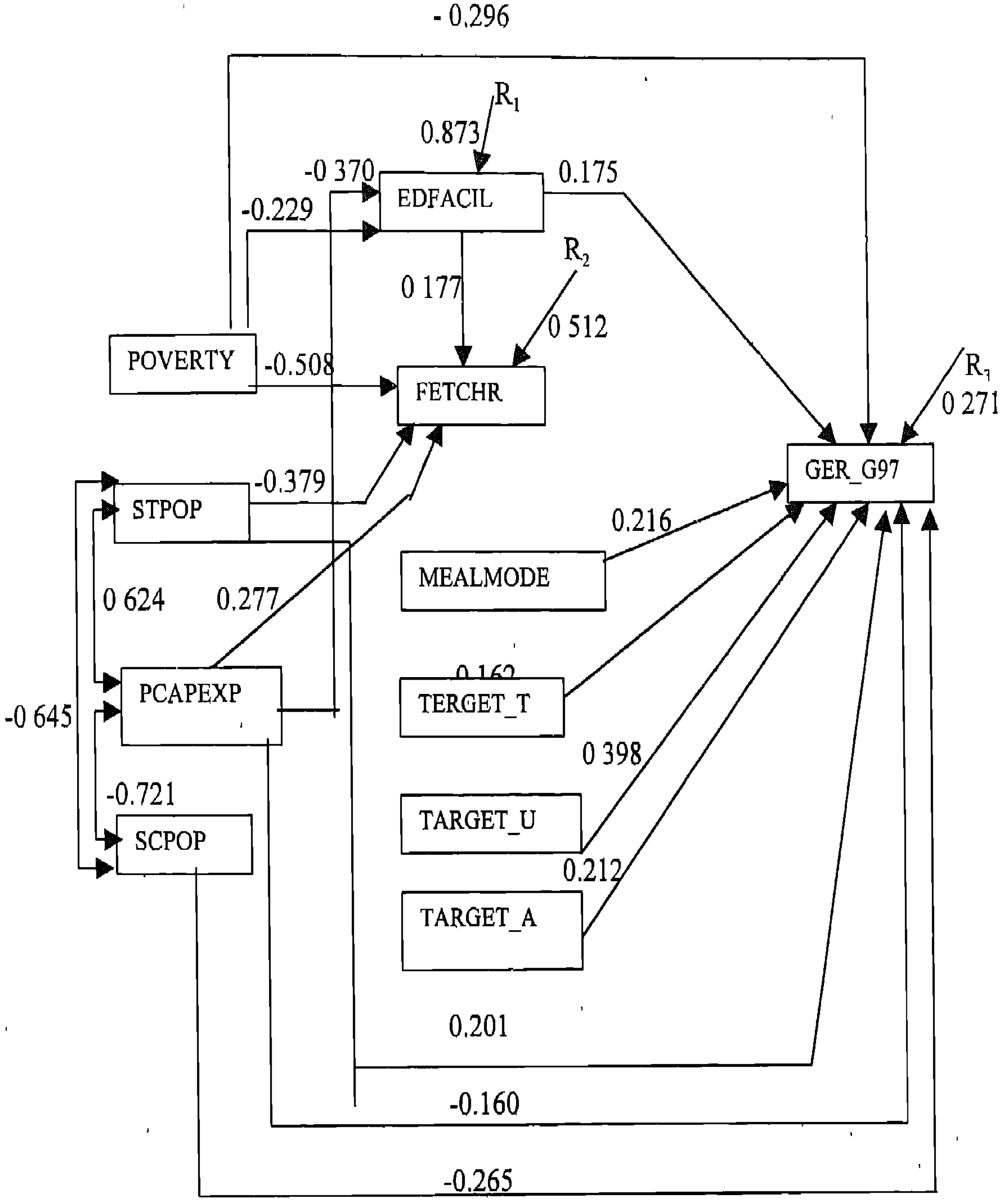


Figure 4.3 : Linkages of GPAR_97 with Estimated Path Coefficient

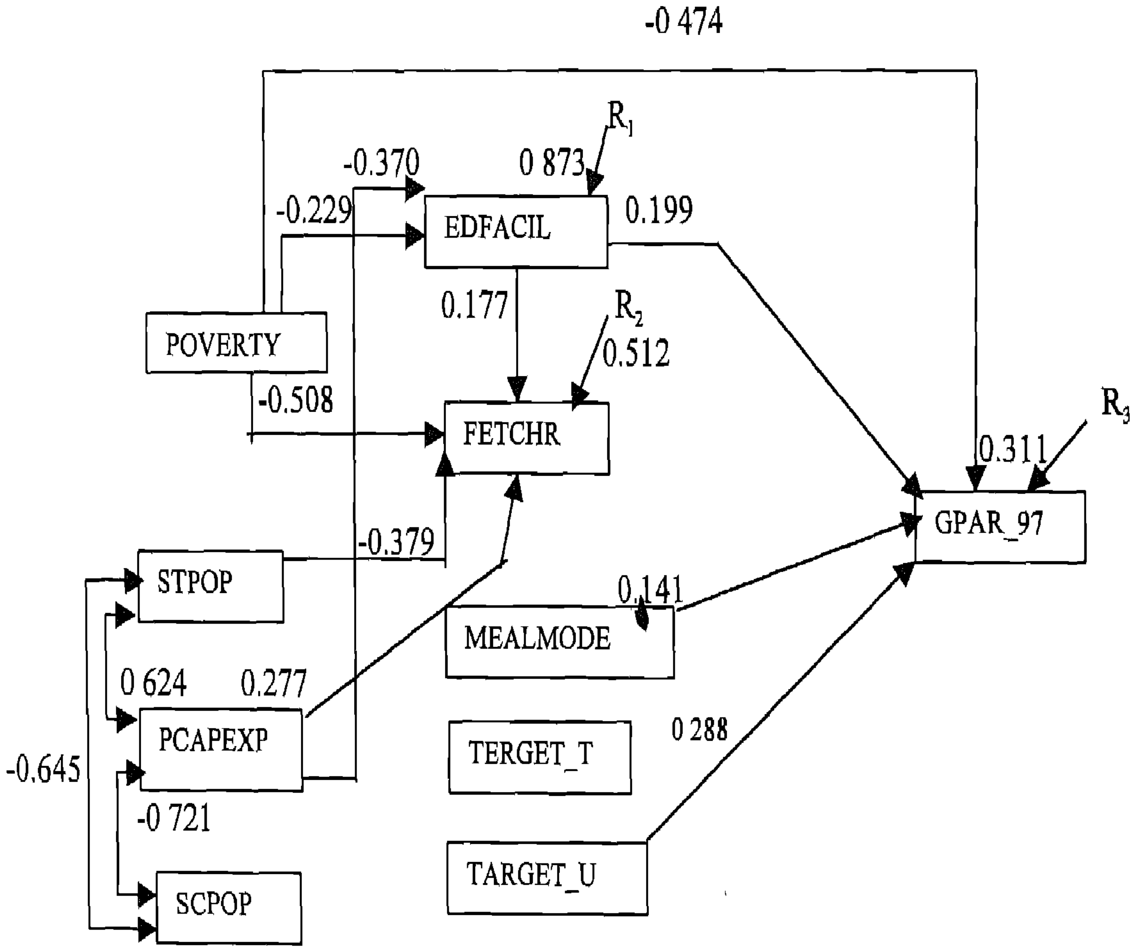


Figure 4.4 : Linkages of CHGPAR with Estimated Path Coefficient

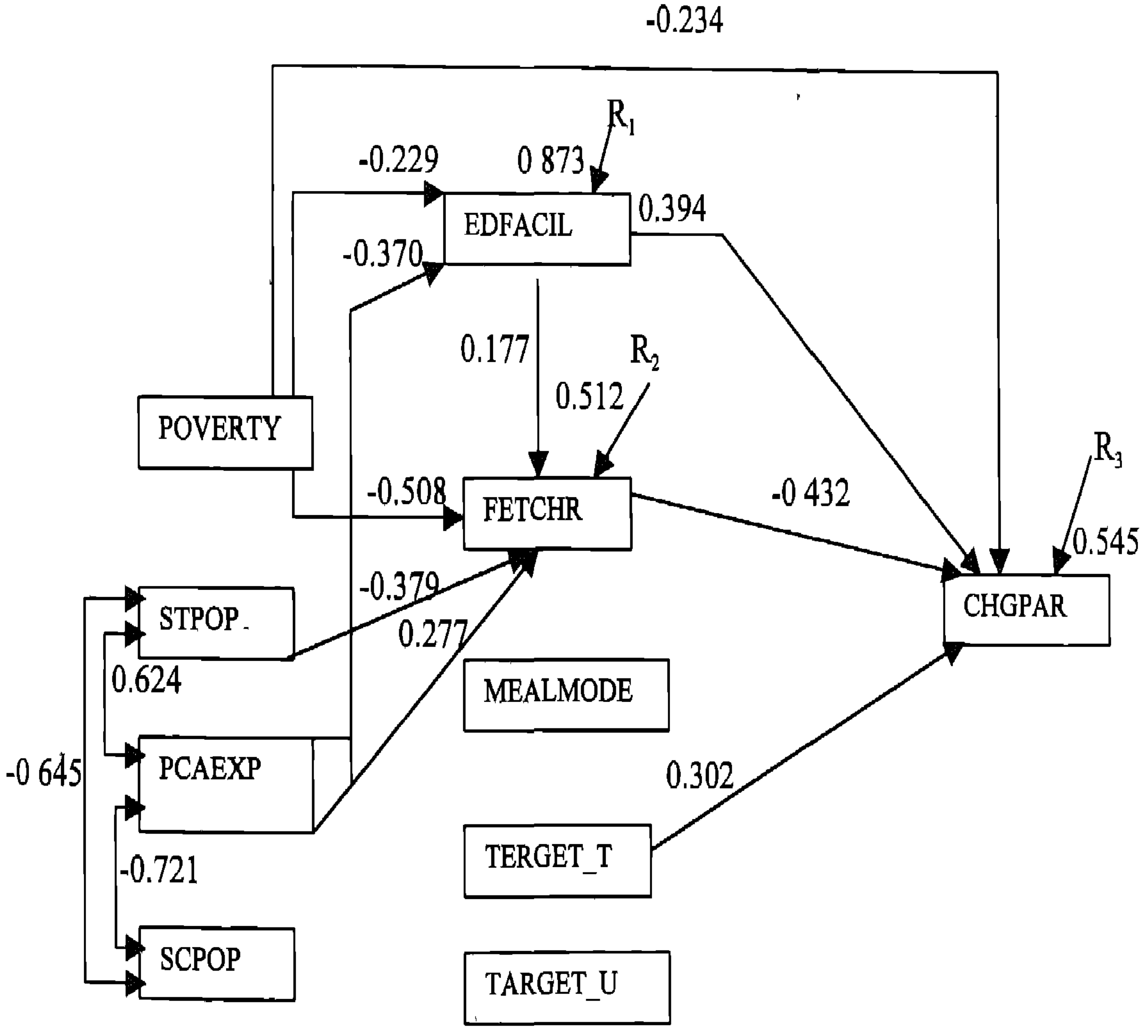


Figure 4.5 : Linkages of GER_G97 with Estimated Path Co-efficient

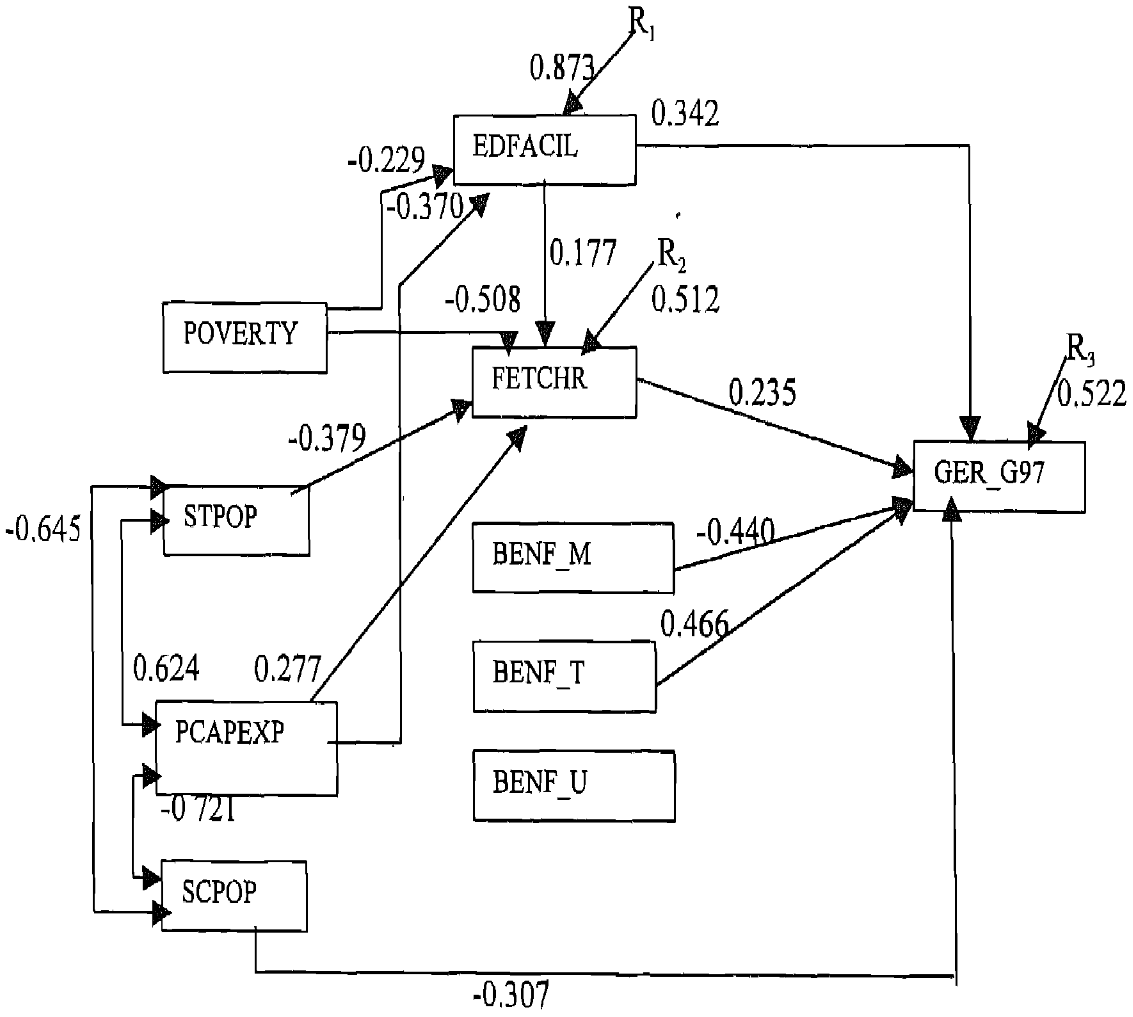


Figure 4.6 : Linkages of GPAR_97 with Estimated Path Coefficient

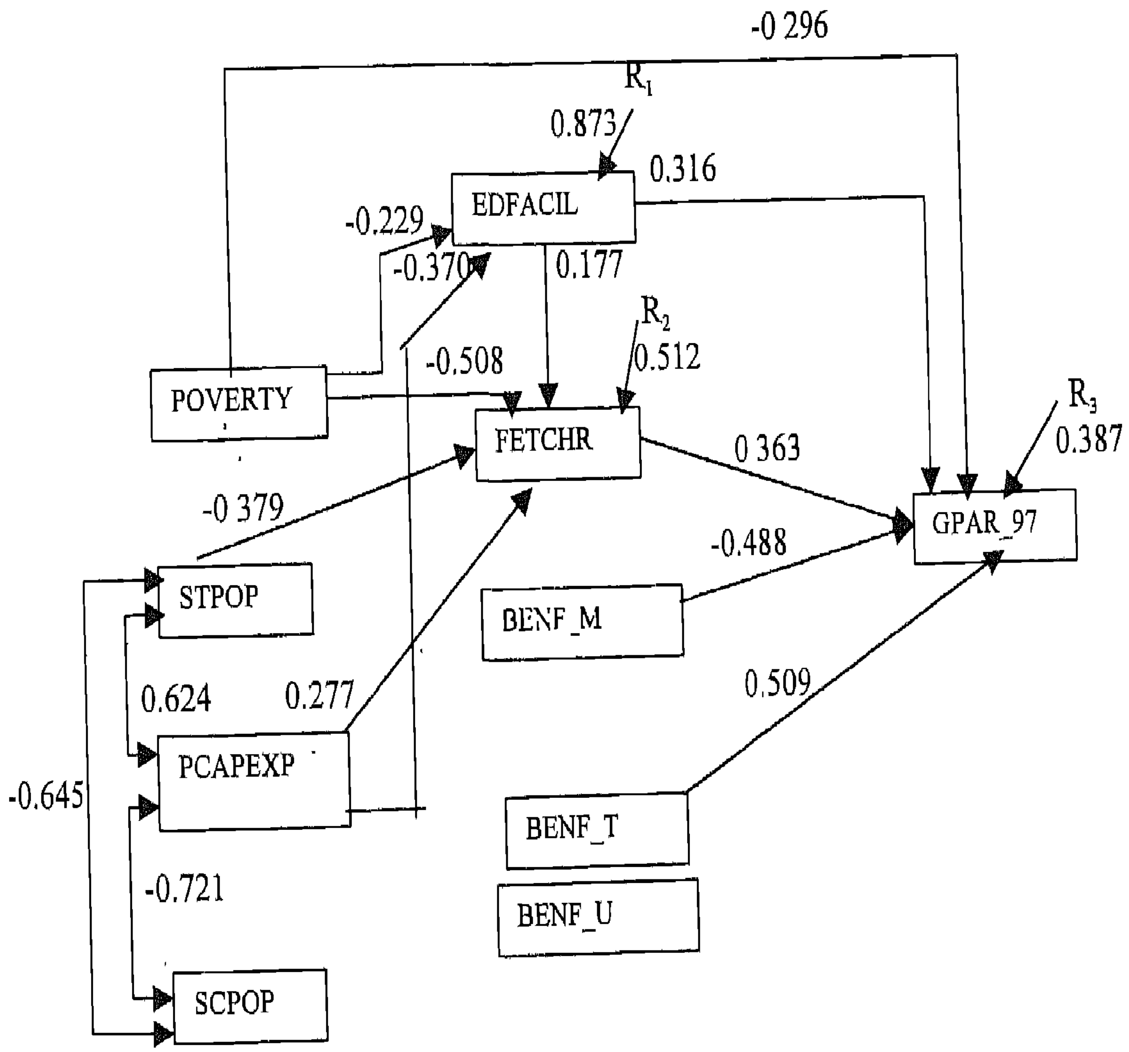
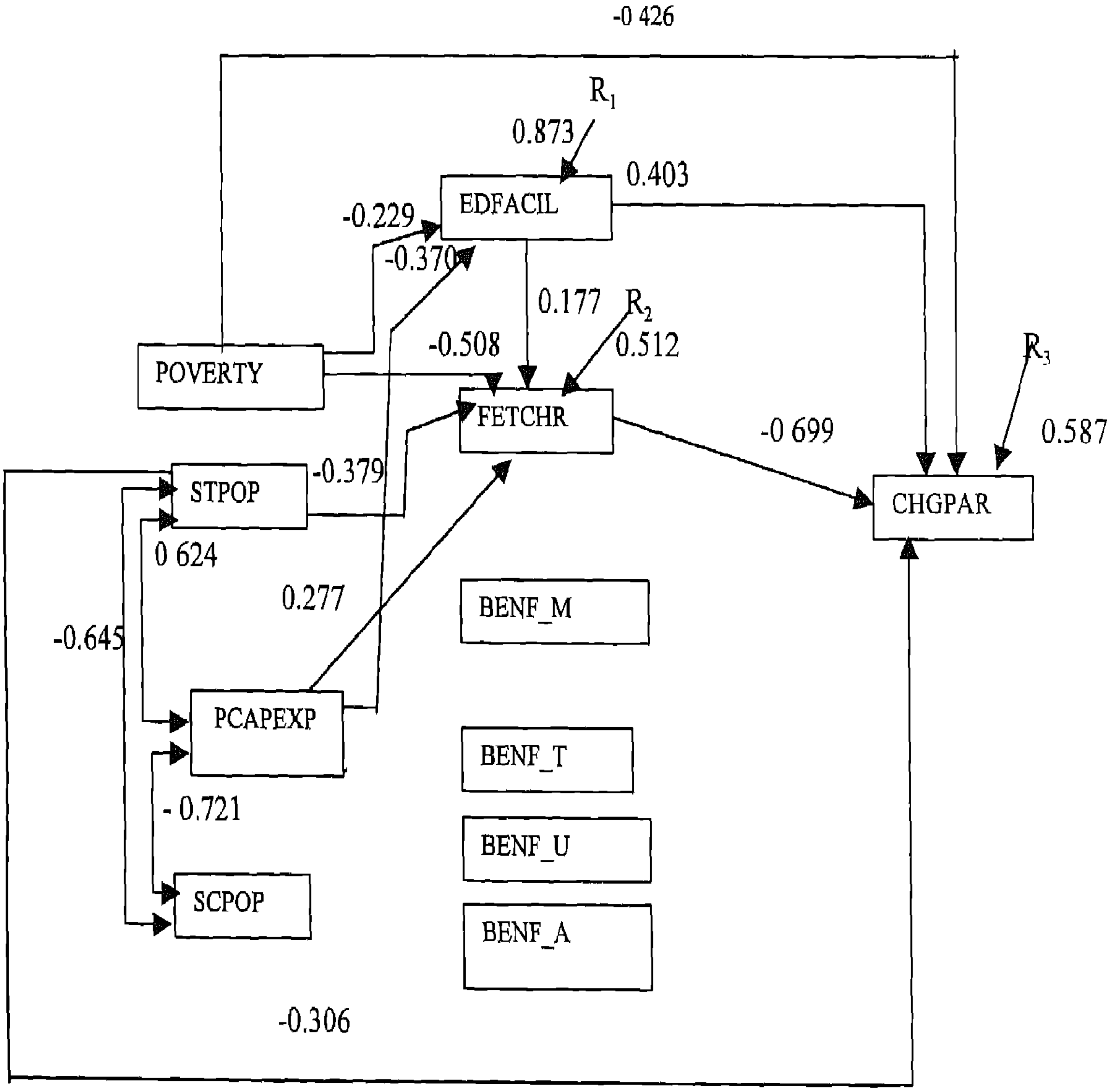


Figure 4.7 : Linkages of CHGPAR with Estimated Path Coefficient



CHAPTER FIVE

Design of the Field Study

5.1.0 Introduction

5 1 1 As mentioned in chapter one, the study has been planned in two phases Phase I attempted to review state policies on incentives, and study variation in them across the states It also attempted to establish their linkages with girls' participation at primary stage using the state level data Discussions on these aspects have already been covered in chapters two to four of this report. The following chapters pertain to Phase II of the study which is a type of field study confining to two states only, viz, Tamil Nadu and Uttar Pradesh. Its main objectives are (i) to ascertain the extent of variation in the state policies when the incentive schemes are implemented in schools; and (ii) to estimate the contribution of incentive schemes to girls' participation at primary stage of education. These objectives are achieved by collecting evidence from schools and communities regarding adherance of state policies on each of the incentives. It is further supplemented by looking into linkages of children's home background, school environment and incentive schemes with reference to girls' participation. For this purpose data have been collected from rural primary schools, Village Heads and parents of those girls who are studying in these schools. This chapter presents details of tools used for data collection, sampling, organisation of field work and procedure of statistical analysis adopted for both the states

5.2.0 Development of Tools

5 2.1 Four schedules, viz., 'School Proforma', 'Teacher Proforma', 'Parents Proforma' and 'Village Head Proforma' have been used for the collection of data. Prior to developing these tools, discussions were held with the state authorities of Tamil Nadu and Uttar Pradesh regarding details concerning policies and practices followed in the implementation of incentive schemes in the schools of both the states. As mentioned in chapter one, the government of Tamil Nadu is providing MDM, labeled as Noon-Meal Programme besides giving Free Textbooks and Free Uniform in primary schools whereas, in Uttar Pradesh, the state government is providing MDM while Free Textbooks are given under the District Primary Education Programme of the World Bank. The implementation strategy of the incentives differs in these two states. Different schedules for both the states were, therefore, necessary These were canvassed in regional languages to facilitate data collection from rural primary schools

5.2.2 The School Proforma is meant for collecting information on school environment, execution of the incentive in schools and on girls' participation. The aspects covered under school's environment are type of school building, number of rooms, number of usable blackboards; mats/furniture facility for students; availability of chalk; lavatory facility for girls and periodicity of its cleaning, medical check-up, coverage of schools under Operation Blackboard and DPEP schemes; number of teachers and their punctuality; multigrade teaching, use of teaching aids; supervision of teaching; enrolment and attendance; new admissions; promoted children and repeaters; and Village Education Committee. The schedule has separate sections only on those incentives, which are being implemented by the state governments The items of information included in each section were the year of implementation in the school; number of beneficiaries, mode of implementation covering quantity, quality and timeliness, number of students not getting benefits, monitoring and supervision of the scheme by village level committee and officers of the state governments; overhead charges in procurement and distribution among students and problems faced and suggestions for improvement.

5 2 3 The Parents' Proforma included information about their socio-economic status, interest in girls' education, information about benefits derived from incentives, their satisfaction about quantity, quality and timeliness of incentives, and finally, suggestions for improvement The Village Head Proforma included almost the same type of information about the efficacy of incentives.

5.3.0 Sampling Strategy

5.3 1 A three-stage stratified sampling design has been used for the selection of schools in both the states Districts, C.D blocks and primary schools were the first stage, second stage and the third stage sampling units respectively At the first stage, districts were classified into three strata, viz., educationally advanced, average and educationally backward districts by using gross-enrolment ratio (GER) of girls at primary stage in rural areas as criterion for stratification. In all, five districts were selected from each state. From each stratum selection of districts was done proportionately to the number of districts in each stratum Care was taken to select at least one DPEP district in the sample At the second stage, i e , from each selected district, three CD blocks were selected using Simple Random Sampling without Replacement (SRSWOR) from those blocks which have female literacy lower than the state value The list of selected districts and CD blocks is given in Table 5 1 At third stage, i.e from each selected block, 10 primary schools were selected using SRSWOR The updated 6th AIES database was used as a sampling frame for selection of schools. Thus a total of 150 rural primary schools were selected in each state. The school proforma was canvassed in these 150 schools

Table 5.1
List of Districts and Blocks Selected for Phase II

State	*Name of Selected Districts*	*Name of Selected Blocks*
Tamil Nadu	1.Ramanathapuram 2 Madurai 3 Dindigul 4. Coimbatore 5. Erode	Paramkudi, Kamudi; Mudukulathur Usilampatti; Melur, Thirumangalam Vedasandu, Reddiyarchatiram; Battlagundu Karamadai, Madathukulam; Kinathukadavu Sathyamangalam; Perundurai, Dharapuram
Uttar Pradesh	1. Faizabad 2. Pilibhit 3. Moradabad 4. Nainital 5. Sultanpur	Amaniganj, Milkipur, Herringtonganj Marori; Barkhera; Beesalpur Panwasa, Bilari, Joya Ramgarh; Dhari, Ram Nagar Jagdishpur, Shahgarh, Kurwar

5.3.2 One teacher from each of the selected schools was considered for canvassing the Teacher Proforma to get the opinion of teachers towards girls' education Ten girls were selected from each of the selected schools in such a way that two girls were chosen from each class In case, the total number of girls enrolled in any selected school was less than 10 then all the girls studying in that school comprised the sample. Representation of girls belonging to SC/ST category was also taken into consideration Parents of these selected girls supplied the information in the parents' proforma Thus a total number of about 1500 parents in each state were covered Village Heads of those villages in which sampled schools are located were considered for canvassing the Village Head Proforma

5.4.0 Organisation of Field Work

5.4.1 The responsibility of data collection in a C D Block was assigned to one enumerator whose work was supervised by the concerned Block Education Officer The District level officer provided the administrative support The selected districts in both the states were clubbed in two clusters for the purpose of training of field staff.

5.4.2 A three-day training for the field staff of Uttar Pradesh was conducted at Faizabad and Pilibhit by the national level project team and the concerned NCERT Field Adviser Similar programmes were organised at Coimbatore and Madurai for the field staff of Tamil Nadu The following activities were taken up during the training programmes.

- Guidelines for conducting the field work which included role of different personnel involved in data collection and methodology of data collection including coding scheme.
- Various concepts and definition of terms used in the schedules, besides items of data collection
- Procedure of data scrutiny for maintaining consistency within and between schedules.
- Practical training for filling the schedules by taking the participants to two nearby schools in rural areas
- Reinforcement of the above activities and sharing of experiences gathered by the participants during their visit to the schools
- Selection of schools and allotment of location codes to each unit of measurement

5.4.3 Trained enumerators personally visited the schools and gathered information from school records, headmasters of the schools, and interviewed parents and village heads. Data collection in Uttar Pradesh was undertaken during April and May 1999 and in July and August in Tamil Nadu. The enumerators submitted the filled-in forms at their respective Block headquarters All the filled-in forms were scrutinised at the block level for completeness and correctness of data Any discrepancy noticed in the data was rectified. These forms were then submitted to the district headquarters where their scrutiny was done on 10 per cent sample basis under the supervision of the Field Adviser, NCERT/national level project team The district level officers dispatched these forms to the NCERT The whole data was again scrutinised at the NCERT before handing over for transcription on magnetic media.

5.4.4 The task of data entry was undertaken at the NCERT After completion of data entry, validation checks were again applied on each item and also in respect of correctness of totals Distributions of some variables were also examined to trap the errors that might have occurred at the data transcription stage.

5.5.0 Data Analysis Procedure

5.5 1 Keeping in view the objectives of the study, the data-analysis comprises basically two parts The first part provides simple distribution of responses to reflect extent of adherence to state policy in rural areas of both the states. The second part attempts to identify linkages of variables with four indicators of girls' participation The approach adopted in the Path analysis is described below.

5 5.2 The Path analysis has been used to estimate the contribution of explanatory variables in the enhancement of girls' participation and reduction of gender gap at the primary stage of education The variables described in Appendix III were standardised (mean zero and standard deviation one) at the school level before using them in the Path analysis. To begin with variables were classified into four categories (constructs).These are (i) Exogenous variables, (ii) School environment, (iii) Incentive Schemes and (iv) Criterion variables. In the case of exogenous variables the parents responses were aggregated at the school level and then they were standardised. The variables considered for analysis are explained in Table 5.2 The constructs of school environment and incentives had several variables. In order to keep limited number of variables, which provide some evidence of variation across schools' recourse, was made to factor analysis. Further, the variables under incentive constructs were segregated to form sub-constructs on the basis of individual inventives In Uttar Pradesh, for example, two sub-constructs were made to include variables on MDM and Free Textbook/ instructional material whereas in Tamil Nadu, three sub-constructs were used because of three incentives provided to students. This approach resulted in representation of each incentive in the Path analysis

Table 5.2
List of Exogenous Variables Used in Path Analysis

Sl No	*Variable label*	*Explanation*
1.	SES	Socio-economic status of parents
2.	ATPTGED	Attitude of parents towards girls education
3	ATENDDW	Girls attending to domestic work
4.	HELPGHW	Parents helping daughters in home work
5	PARTCO	Girls taking part in co-curricular activities.

5.5 3 Still the number of variables under the school environment construct and sub-constructs of incentives were large. A limited number of variables needs to be included in the Path analysis in order to have statistically valid results To reduce the number of variables, Principal Component analysis has been attempted. Before applying this technique the value of KMO statistic due to Kaiser (1974) was computed for the set of variables having low value of partial correlation coefficient for each construct/sub-construct. If the value of KMO statistic was at least 0.60, this analysis was applied to identify the factors in each construct and sub-construct and then factor scores have been obtained for each school. These scores have been used to compute the value of each factor

5.5.4 While the factor analysis has worked satisfactorily for all the constructs/sub-constructs in Uttar Pradesh, the condition of KMO value to be greater than 0.6 was not satisfied in the case of two sub-constructs, namely, 'free textbooks' and 'free uniform' in Tamil Nadu Among all the variables in each sub-construct, the variables providing high value of correlation with the other variables were excluded. Then the method of backward stepwise regression analysis has been used for reduction of number of variables in each of the two sub-constructs.

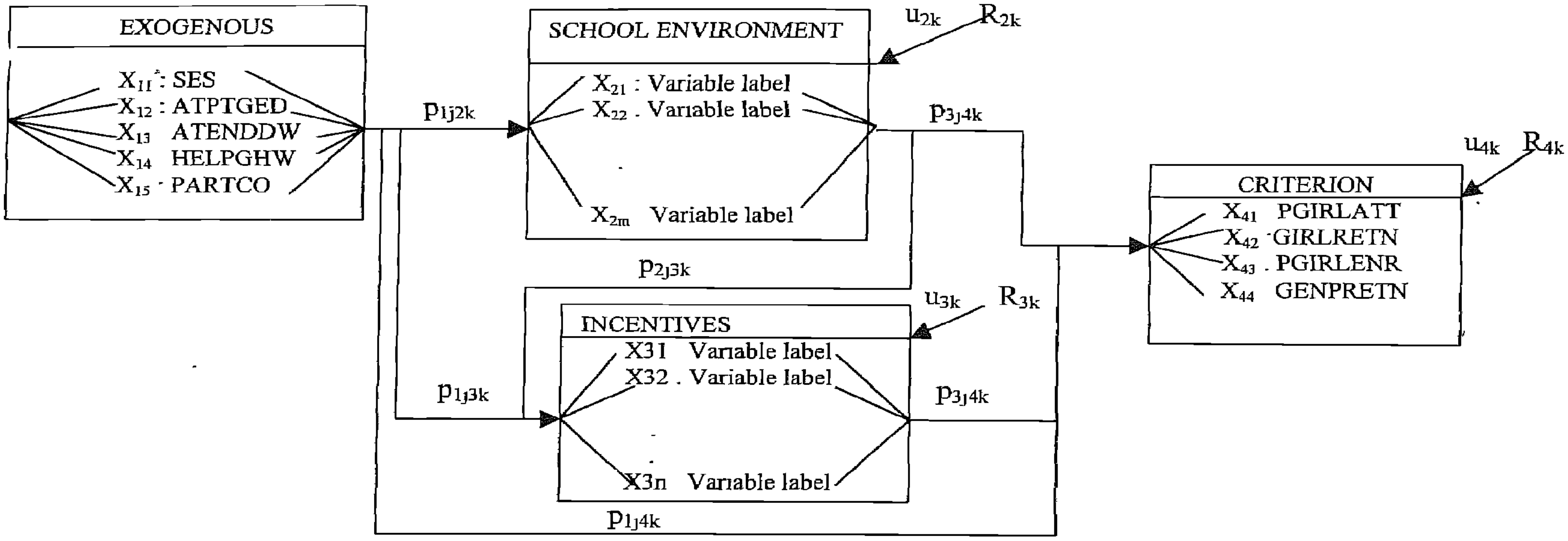
5 5 5 The criterion variables, described in Table 5.3 depicted girls participation in rural primary schools of Uttar Pradesh and Tamil Nadu. Among the four chosen variables, the girls' and boys' retention rates were computed by using three year data on new admissions, repeaters and promotees using restructured cohort method The indicators are adjusted for new entrants during the session but after 30 September of each year

Table 5.3
List of Criterion Variables Used in Path Analysis

Sl. No	*Variable label*	*Explanation*
1.	PGIRLATT	% of girls present on the day of investigation
2.	GIRLRETN	Girls retention rate in primary schools
3.	PGIRLENR	% of girls enrolled in primary schools
4	GENPRETN	Gender parity in retention

5.5.6 After selection of variables of all the four constructs according to the above mentioned procedure, the Path analysis was undertaken as per structural equations given in Figure 5.1. The estimates of path coefficients of each variable and for unexplained portion were worked out using the multiple linear regression model. In this process, the first stage was computation of multiple correlation coefficient (R) If R was statistically significant at 5 per cent or below significance level, the path coefficients were estimated. Further, only those estimates of path coefficients have been included which were found statistically significant at 5 per cent level of significance

Figure 5.1 · Arrow Diagram and Structural Equations of Path Analysis at School Level



Where, r is bivariate correlation coefficent, R component of variation remained unexplained, and p and u are path coefficients of X and R respectively.

$$X_{2k} = \sum_{j=1}^{5} p_{1j2k}X_{1j} + u_{2k}R_{2k} \quad \text{Where, } k= 1,2\ldots, m$$

$$X_{3k} = \sum_{j=1}^{5} p_{1j3k}X_{1j} + \sum_{j=1}^{m} p_{2j3k}X_{2j} + u_{3k}R_{3k} \quad \text{Where, } k=1,2, \ldots, n.$$

$$X_{4k} = \sum_{j=1}^{5} p_{1j4k}X_{1j} + \sum_{j=1}^{m} P_{2j4k}X_{2j} + \sum_{j=1}^{n} p_{3j4k}X_{3j} + u_{4k}R_{4k} \quad \text{Where, } k=1,2,3 \;\&\; 4$$

CHAPTER SIX

Contribution of Incentives on Girls' Participation in Tamil Nadu

6.1.0 Introduction

6.1.1 Of the four incentive schemes considered in this study, only three schemes, namely, Noon-Meal Programme, Free Textbooks and Free Uniform are in operation in the state. This chapter, therefore, presents discussions on these incentives While doing so state policies on each of these schemes have also been presented It is followed by discussions on implementation aspects based on the data collected through field study Problems faced by schools and suggestions for improvement are part of these discussions Besides, empirical evidence has been collected to establish contribution of these schemes to the girls' participation in rural primary schools in terms of their attendance, retention and gender parity in rates of enrolment and retention

6.2.0 State Policies on Noon-Meal Programme

6.2.1 The scheme of Noon-Meal was introduced for the first time in the state of Tamil Nadu as early as 1925 by the then Madras Corporation. Under the scheme, free meals were provided to 250 poor school going children. This scheme was launched throughout the state for school going children in 1956. In 1982, the then Chief minister of Tamil Nadu introduced the Chief Minister's Nutritious Noon-Meal Programme (CMNNMP) for children studying in pre-primary and elementary schools Since then, there have been modifications in the scheme to increase scope and coverage from time to time. The scheme presently in operation in Tamil Nadu is 'Puratchi Thalaivar MGR Nutritious Meal Programme' The main objective of this scheme is to increase enrolment, reduce dropout rate and eradicate malnutrition from among the children.

6 2 2 The scheme of Noon-Meal covers all school going children of standards I to X broadly corresponding to age-group 5 to 15 years. Under this scheme provision has been made to serve meals to students throughout the year including holidays. Meals are to be prepared in the Noon-Meal Centres which would be located either within the school premises or in some neighbouring schools Meals of reasonably good quality and in sufficient quantity with changed menu are required to be served to students Meals are to be supplemented with boiled eggs once a week and their quality to be checked before serving to students Each centre is to be provided with a Noon-Meal Organiser, a cook and an Assistant for doing menial work.

6 2.3 This scheme is being implemented by the Department of Rural Development Local Authority (RDLA) in the state. The District Collector is the overall incharge of the Noon-Meal Programme in the revenue district who looks after execution, inspection and supervision of the scheme He is assisted by Panchayat Union Commissioners. Personal Assistant to Collector, Tahsildars, Block Development Officers and other functionaries at different levels of administration are involved in this process The state government has sanctioned 83 paise and 92 paise per child per day for children of age-group 5 to 9

years and 10 to 15 years respectively. The number of Noon-Meal Centres in the state is 38,197. There are 38,094 Noon-Meal organisers, 37,598 cooks and 37,560 Assistants to run these centres They are paid monthly emoluments of Rs 1,082, Rs 510 and Rs 460 respectively.

6.3.0 Adherence to State Policies on Noon-Meal Programme

6.3.1 Prior to 1982, 60 per cent of the 150 sampled rural primary schools had the Noon-Meal Programme in operation. This programme was extended to additional 32.3 per cent of such schools in 1982 Presently, it is running in all the 150 primary schools satisfactorily, right from the beginning of the session without any gap Noon-Meal Centres for all these schools are located within the school premises Of these, two centres also cater to the students of other two schools Ninety per cent of the schools serve meals on holidays also. Monotony in the menu is broken by 91 per cent of the schools which serve different vegetables. Almost all the schools report that the meals served are of satisfactory quality (92%) and in sufficient quantity (98%). Meals are mostly served during recess time (94%). Protein supplement in the form of eggs is provided in all the schools and 96.7 per cent of them report that quality of eggs is checked before serving to students.

6 3 2 Almost all the Noon-Meal Centres are provided with utensils for cooking meals (98%) together with cooks in 94 per cent, Assistants for menial work in 86 per cent and Noon-Meal Organisers in 96 per cent centres

6 3.3 Noon-Meals are distributed to the students under the supervision of the Noon-Meal Organisers in almost all the schools (94%) as his legitimate duty However, instances are not lacking when we find schools where even class monitors (16.0%), teachers (54 7%) and community members (3 3%) lend a helping hand.

6 3.4 The quality of the meals is checked in 92.7 per cent of the schools The Noon-Meal Organiser checks the quality in 90 per cent of the schools while teachers (26 0%), headmasters (35.3%) and community members (6.7%) also do it at the school level Supervision and monitoring of the Noon-Meal Programme is taken care of by authorities like Collectors (3 3%), Personal Assistants to the Collectors (9.3%), Tahsildars (6.0%) and BDOs (89 3%).

6 3.5 A massive programme like Noon-Meal cannot be run efficiently without the cooperation of various individuals who can contribute in the preparation and distribution of meals Since the Noon-Meal Programme is very well organised in Tamil Nadu, role of teachers (41.3%), village community (4 0%) and students (28 7%) is limited as indicated by the percentages of responses from schools given within parentheses.

6 3 6 About 95 per cent of the schools have reported that the Noon-Meal Programme has helped in increasing the enrolment and retention of girls

6.4.0 Problems Faced by Schools in Implementation of Noon-Meal Programme

6.4.1 The scheme of Noon-Meal being in operation in Tamil Nadu over the number of years, the process of implementation has been streamlined. The bottlenecks faced appear to have been removed as is evident from the fact that only about one-tenth of the schools have complained that there is no separate kitchen, the quality of the meal is poor and the scheme lacks supervision by authorities. There are stray cases where the school does not have a store-room, sufficient utensils and sufficient supply of water

6.5.0 Suggestions by the Parents and Village Heads for Improvement of Noon-Meal Programme

6 5.1 About one-third of the parents have felt that the quality of meals including vegetables may be improved and its quantity increased Slightly more than 15 per cent of the parents suggested that milk and fruits may also be provided to the students. Some parents even felt that the funds granted for the scheme are not sufficient and need to be increased. There should be frequent supervision of the scheme by government officers, suggested some of the parents.

6 5.2 Suggestions like improvement in quality of rice, dal and vegetables, provision of eggs, milk and fruits; and supervision by government officers have been corroborated by the village heads also Cooks and organisers should be conversant with concepts of balanced diet necessary for good health felt some of the village heads

6.6.0 State Polices on Free Textbooks Scheme

6 6.1 Free supply of textbook scheme was implemented in Tamil Nadu in 1985-86 All pupils of standards I-VIII who are getting free noon-meal are covered under this scheme

6.6.2 The Director of School Education and the Managing Director of Tamil Nadu Textbook Corporation share the responsibility for implementation of the scheme in the state. District Elementary Education Officers (DEEOs) have been made responsible to estimate the number of textbooks required for distribution on the basis of enrolment for noon-meal programme and furnish the list of eligible students to the Director of School Education well in advance of each academic year These requirements are compiled in the Directorate and sent to the Managing Director of Tamil Nadu Textbook Corporation. The DEEOs have also been assigned the duty of procurement of the books from the Corporation and then distribution to schools through Assistant Elementary Education Officers (AEEOs) The headmasters are given the responsibility of receiving and distributing the books to students in their schools They are required to maintain a separate stock register and enter the receipt and issue of the textbooks. The sanctioned quantum of benefits per child per annum under this scheme is Rs.32 50

6.7.0 Adherence to State Policies on Free Textbooks

6 7.1 Supply of free textbooks is a popular incentive next only to the Noon-Meal Programme. This scheme is being implemented in all the sampled schools. The textbooks are supplied by the Tamil Nadu Textbook Corporation to eligible students through AEEOs in all the schools There does not appear to be any discrimination between repeaters and non-repeaters, as 86 per cent of the schools provide free textbooks to the repeaters also The significant feature of the scheme is that the books for free distribution are received as per school demand schedule (93.3%).

6 7 2 Free textbooks are generally distributed to students in the month of June every year as is evident from the information supplied by the schools Almost all the sampled schools (96%) have distributed textbooks in the month of June while the remaining 4 per cent did it in July during the academic year 1998-99. It may be mentioned that the new session in Tamil Nadu starts from June. One in every five

of the schools reports that free textbooks are supplied even to those students who join the school in mid-session. The expenditure on this scheme does not prove to be infructuous as no student left the school (70 0%) after getting the books The number of students who either left the school or did not attend classes regularly after receiving books, ranges from 1 to 5 in 20 7 per cent of the schools while more than five students did so in 9.3 per cent of the schools

6.7.3 There is a very strong evidence to show that some overhead expenses are incurred by the schools in procurement and distribution of textbooks by schools (93.3%) which are sometimes met through contribution from teachers, students, community and school funds.

6.7.4 Only three schools report that monitoring and evaluation of this scheme is done by the village level committees of their schools The major responsibility of monitoring and evaluation lies with the AEEOs (89 3%) and DEEOs (4 7%), who visit the schools for the purpose. However, no official at the state level has visited the schools with this motive.

6 7.5 This incentive has helped in increasing enrolment and retention of girls as reported by 99 3 per cent and 96.6 per cent schools respectively

6.8.0 Problems Faced by Schools in Implementation of Free Textbooks Scheme

6.8.1 On the basis of information supplied by the schools it appears that the schools do not face any serious problem in implementation of the scheme of free textbooks. However, there is a suggestion from nine schools out of the 150 covered that the supply of textbooks for distribution to the students should be direct to the schools. Three schools have reported insufficient supply of books. This may, perhaps, be due to the fact that the indent is being prepared on the basis of previous year's enrolment

6.9.0 Suggestions by the Parents and Village Heads with respect to FreeTextbooks Scheme

6 9 1 More than three-fourths of the parents suggested that notebooks may also be supplied to the students along with textbooks The village heads gave no suggestions.

6.10.0 State Policies on Free Uniform Scheme

6 10 1 The scheme of free uniform was launched in Tamil Nadu in 1985-86 for all pupils studying in standard I-VIII and are beneficiaries under Nutritious Meal Programme. One set of uniform is given to each student every year.

6.10.2 The DEEOs are required to prepare indent for free uniform and send it to the Director of School Education The consolidated list is forwarded to the Directorate of Social Welfare which is also responsible for stitching of the uniform. The uniform is stitched by the Women Tailoring Cooperative Societies under the control of Directorate of Social Welfare. It is supplied to the eligible children through the AEEOs The quantum of benefit sanctioned per child per annum under this scheme is Rs 112

6.11.0 Adherence to State Policies on Free Uniform Scheme

6.11 1 Free uniform is supplied to the eligible students every year in almost all the schools (97.1%) Although, stitched sets of uniform are supplied to the students by the Directorate of Social Welfare through AEEOs, there are instances where cloth purchased by the Education Department is supplied to the schools for distribution to students The schools (93.3%) received the supply as per their demand Only about half of the remaining schools submitted revised lists Free uniform is mostly distributed in schools in the months of June (37 3%), July (27 3%) and August (14 0%) A small proportion of schools (14 0%) has distributed these in April also. Free uniform is supplied to repeaters in 84 0 per cent schools whereas students joining in mid-session are supplied uniform in 17 3 per cent schools The students covered under the scheme do attend schools in uniform.

6.11 2 There are overhead charges in procurement of the uniform for students in 86 7 per cent schools These are met from the contribution of teachers (39 2%), students (19.2%), community (3.8%), besides from school funds (40.8%)

6 11.3 Only three schools have village level committees for monitoring and evaluation of the scheme. Monitoring and supervision of the scheme is mostly done through BDOs (85 3%). District level Officers did it in only three schools

6.12.0 Problems Faced by Schools in respect of Free Uniform Scheme

6 12.1 About 15 per cent of the schools have complained that the uniform is not properly stitched There are cases where stitching charges are not paid to students who receive cloth in lieu of the uniform There is no arrangement for the supply of two sets of uniform every year Besides, the quality of cloth is not good

6.13.0 Suggestions by the Parents and Village Heads in respect of Free Uniform Scheme

6 13.1 Parents and village heads felt that the quality of cloth should be improved along with quality of stitching. Two sets of proper sized uniform should be provided to the students every year Some parents have suggested cash payment in lieu of uniform or cloth while some village heads have suggested supply of unstitched cloth.

6.14.0 Incentives and Girls' Participation in Education

6.14.1 As mentioned in Chapter Five principal component analysis has been used to reduce the number of variables in school environment and incentive constructs before empirically establishing linkages with girls' participation This analysis provided factors in the case of constructs pertaining to school environment and Noon-Meal Programme only The variables having correlation greater than 0.6 with corresponding factors are listed in Table 6 1.

Table 6.1
List of Variables Having Correlation Greater than 0.6 with Corresponding Factors

Construct/ Sub-construct	*Factor*	*Variable label*	*Variable explanation*
School Environment	SCF1	1. PSTUHFMF 2. TEACHAID 3 TATOGED	% of students having mats/furniture facility Teaching aids used by the teachers Teachers attitude towards girls' education
	SCF2	1 PDTPRES	% of days teachers were present in the school
Noon-Meal Programme	MDF1	1. PRTNMDST 2 SUPMDIST 3 NMQUAL	Participation in preparation/distribution of meals Supervision of distribution of meals Checking of quality of meals
	MDF2	1 COMPLODG 2. ACTNTIME	Complaint lodged with authorities about unsatisfactory quality of meals Action taken by authorities within reasonable Time
	MDF3	1.EVLVCM	Monitoring and Evaluation of Noon-meal by village level committee

Since the principal component analysis failed to identify factors for the sub-constructs related to incentive schemes of free textbooks and free uniform, backward stepwise regression analysis has been applied for the purpose. The variables thus selected are given in Table 6.2 along with their explanation.

Table 6.2
List of Selected Variables Related to Incentive Schemes of Free Textbooks and Free Uniform

Incentive Scheme	*Variable Label*	*Variable Explanation*
Free Textbooks	1. MOTIVT	Scheme of free textbooks motivated parents in sending their daughters to school
	2 MONSAT	Monitoring and supervision of free textbooks scheme
Free Uniform	1. MONSAU	Monitoring and supervision of free uniform scheme
	2. RECU	Girls receiving uniform during 1998-99
	3. DURABLE	Whether the uniform lasts up to the end of the session
	4. MOTIVU	Scheme of free uniform motivated parents in sending their daughters to school

6 14 2 Table 6.3 provides values of multiple correlation coefficients along with their level of significance to indicate statistical evidence about existence of linear, relationship of explanatory variables with the dependent variables as per linkages depicted in Figure 5 1 of Chapter five.

Table 6.3
Multiple Correlation Coefficients with their Level of Significance

Sl No.	*Dependent Variable*	*Multiple R*	*Significance level of F*
1.	SCF1	0.399	0 000
2.	SCF2	0.299	0 023
3.	MDF1	0.365	0.006
4.	MDF2	0.139	0 911
5.	MDF3	0.293	0.087
6	MOTIVT	0 512	0 000
7	MONSAT	0 187	0.669
8.	MONSAU	0.374	0.004
9.	RECU	0.456	0.000
10.	DURABLE	0 347	0.013
11	MOTIVU	0 441	0.000
12	PGIRLATT	0 270	0 012
13	GIRLRETN	0 277	0 009
14	PGIRLENR	0 434	0 000
15.	GENPRETN	0.221	0 029

6 14 3 The table indicates that both the variables pertaining to school environment have statistical evidence of their linkage with exogenous variables Further, all the incentive variables except MDF2, MDF3 and MONSAT do have significant proportion of variation explained by exogenous variables and the school level factors. Consequently, the exogenous and school variables will not have indirect effect through these three variables in the path analysis whereas others might have depending upon their contribution

6.14.4 The efficacy of linkages in terms of multiple correlation of each of the four variables of girls' participation with exogenous, school environment and incentives taken together is given in Table 6.3. The values of multiple correlation in each variable provided statistical evidence of existence of linkages at 5 per cent level of significance

6 14.5 It is evident from Figure 6.1 that 92 7 per cent of the variation in percentage of girls' attendance (PGIRLATT) remained unexplained by the variation in explanatory variables The variables not significantly contributing directly or indirectly are SES, PARTCO, ATPTGED, SCF1, SCF2, MDF1, MDF2, MDF3, MOTIVT, RECU and MOTIVU However, the value of multiple correlation coefficient in this case has been found to be significant at 1 per cent level.

6 14.6 Table 6.4 shows that the incentive variables MONSAT, MONSAU and DURABLE have direct effect while the school environment variables ATENDDW and HELPGHW have indirect effect on PGIRLATT It is observed that the attendance of girls is likely to increase if the parents provide more help to girls in their home assignments

Table 6.4
Estimated Values of Direct and Indirect Effects of Explanatory Variables on PGIRLATT

Sl. No	*Variable*	*Direct Effect*	*Indirect Effect*	*Total Effect*
1.	ATENDDW	-	0 068	0 068
2.	SES	-	-	-
3	HELPGHW	-	0 027	0 027
4.	PARTCO	-	-	-
5	ATPTGED	-	-	-
6.	SCF1	-	-	-
7	SCF2	-	-	-
8	MDF1	-	-	-
9.	MDF2	-	-	-
10	MDF3	-	-	-
11.	MOTIVT	-	-	-
12	MONSAT	-0 210	-	-0 210
13	MONSAU	0 232	-	0 232
14.	RECU	-	-	-
15	DURABLE	-0.158	-	-0 158
16.	MOTIVU	-	-	-

6 14.7 Figure 6 2 shows that only exogenous variable SES has been found to be associated with the criterion variable GIRLRETN. Only 7 7 per cent of the variation in the dependent variable has been found to be explained by the variation in variable SES. Further, the association between these two variables is direct and positive which can be seen from Table 6.5. Empirical evidence shows that in rural areas, school factors and incentive schemes do not have discernible linkage with the retention of girls. It is socio-economic background of parents that has relationship with retention of girls in rural schools More specifically, an increase of unit standard deviation in the value of SES would, on average, increase GIRLRETN by 20 6 per cent of its standard deviation

Table 6.5

Estimated Values of Direct and Indirect Effects of Explanatory Variables on GIRLRETN

Sl No	*Variable*	*Direct Effect*	*Indirect Effect*	*Total Effect*
1	ATENDDW	-	-	-
2.	SES	0 206	-	0'206
3.	HELPGHW	-	-	-
4.	PARTCO	-	-	-
5	ATPTGED	-	-	-
6	SCF1	-	-	-
7	SCF2	-	-	-
8.	MDF1	-	-	-
9.	MDF2	-	-	-
10	MDF3	-	-	-
11.	MOTIVT	-	-	-
12.	MONSAT	-	-	-
13	MONSAU	-	-	-
14.	RECU	-	-	-
15.	DURABLE	-	-	-
16.	MOTIVU	-	-	-

6.14.8 It can be seen from Figure 6.3 that the criterion variable PGIRLENR (percentage of girls enrolled in primary schools) has linkages with exogenous, school environment and incentive variables. The variation in these variables could explain only 18.8 per cent of the variation in the criterion variable. Table 6 6 shows that the percentage of girls enrolment in primary schools is likely to increase if the girls devote lesser time to domestic work and parents help them in completing their home assignments Socio-economic status of their parents is also positively associated with enrolment of girls Further, the school variable SCF2, i e., percentage of days teachers were present in the school, has also indicated positive relationship with the criterion variable. Besides, exogenous and school environment variables, MOTIVT, RECU and DURABLE incentive variables appear to be contributing to the variation of the variable PGIRLENR. An increase of unit standard deviation in each of the variables RECU and DURABLE appears to increase, on average, 28 6 per cent and 21 7 per cent respectively of the standard deviation of PGIRLENR

Table 6.6

Estimated Values of Direct and Indirect Effects of Explanatory Variables on PGIRLENR

Sl No	*Variable*	*Direct Effect*	*Indirect Effect*	*Total Effect*
1.	ATENDDW	-	-0.175	-0 175
2.	SES	0.168	-	0.168
3.	HELPGHW	-	0.053	0.053
4.	PARTCO	-	-	-
5.	ATPTGED	-	0.019	0 019
6.	SCF1	-	-	-
7.	SCF2	0.148	-	0.148
8.	MDF1	-	-	-
9.	MDF2	-	-	-
10	MDF3	-	-	-
11	MOTIVT	-0 404	-	-0 404
12.	MONSAT	-	-	-
13	MONSAU	-	-	-
14.	RECU	0 286	-	0.286
15	DURABLE	0.217	-	0 217
16	MOTIVU	-	-	-

6.14.9 Figure 6.4 indicates that there is only one variable MOTIVU, which has been found to be associated with the criterion variable GENPRETN. This variable is instrumental in explaining 4.9 per cent of the variation in GENPRETN. It is evident from Table 6 7 that the variable MOTIVU has direct effect while exogenous variables ATPTGED and ATENDDW have indirect effect on the gender parity in retention rate. Table 6 7 reveals that the positive attitude of parents towards girls' education would have a positive effect on GENPRETN The variable ATENDDW i.e., girls attending to domestic work, has negative effect on girls' retention. It implies that their presence in school is adversely affected with more and more of their involvement in domestic chores. Further, it is observed that there is a negative relationship between motivation of parents in sending their daughters to school and gender parity in retention rate The negative association between these two variables may be due to the fact that the scheme of free uniform covered both boys and girls and, therefore, motivated parents to send both of them to school.

Table 6.7

Estimated Values of Direct and Indirect Effects of Explanatory Variables on GENPRETN

Sl. No	*Variable*	*Direct Effect*	*Indirect Effect*	*Total Effect*
1.	ATENDDW	-	-0.036	-0.036
2.	SES	-	-	-
3	HELPGHW	-	-	-
4	PARTCO	-	-	-
5	ATPTGED	-	0.043	0.043
6.	SCF1	-	-	-
7	SCF2	-	-	-
8.	MDF1	-	-	-
9	MDF2	-	-	-
10.	MDF3	-	-	-
11.	MOTIVT	-	-	-
12	MONSAT	-	-	-
13	MONSAU	-	-	-
14.	RECU	-	-	-
15.	DURABLE	-	-	-
16	MOTIVU	-0.185	-	-0.185

Figure 6.1 Linkages and estimated path coefficient of Explanatory variables with PGIRLATT

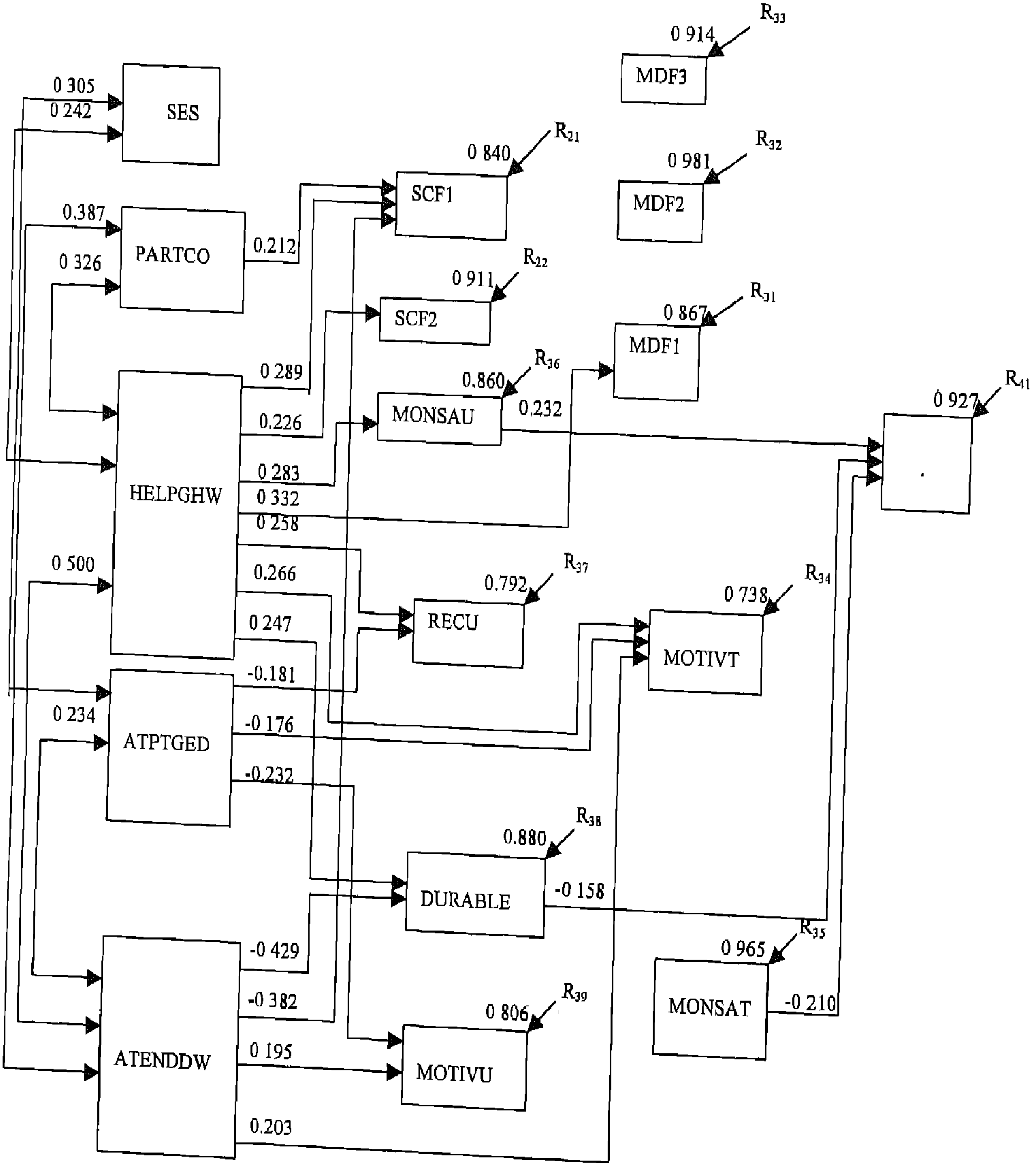


Figure 6.2 Linkages and estimated path coefficient of Explanatory variables with GIRLRETN

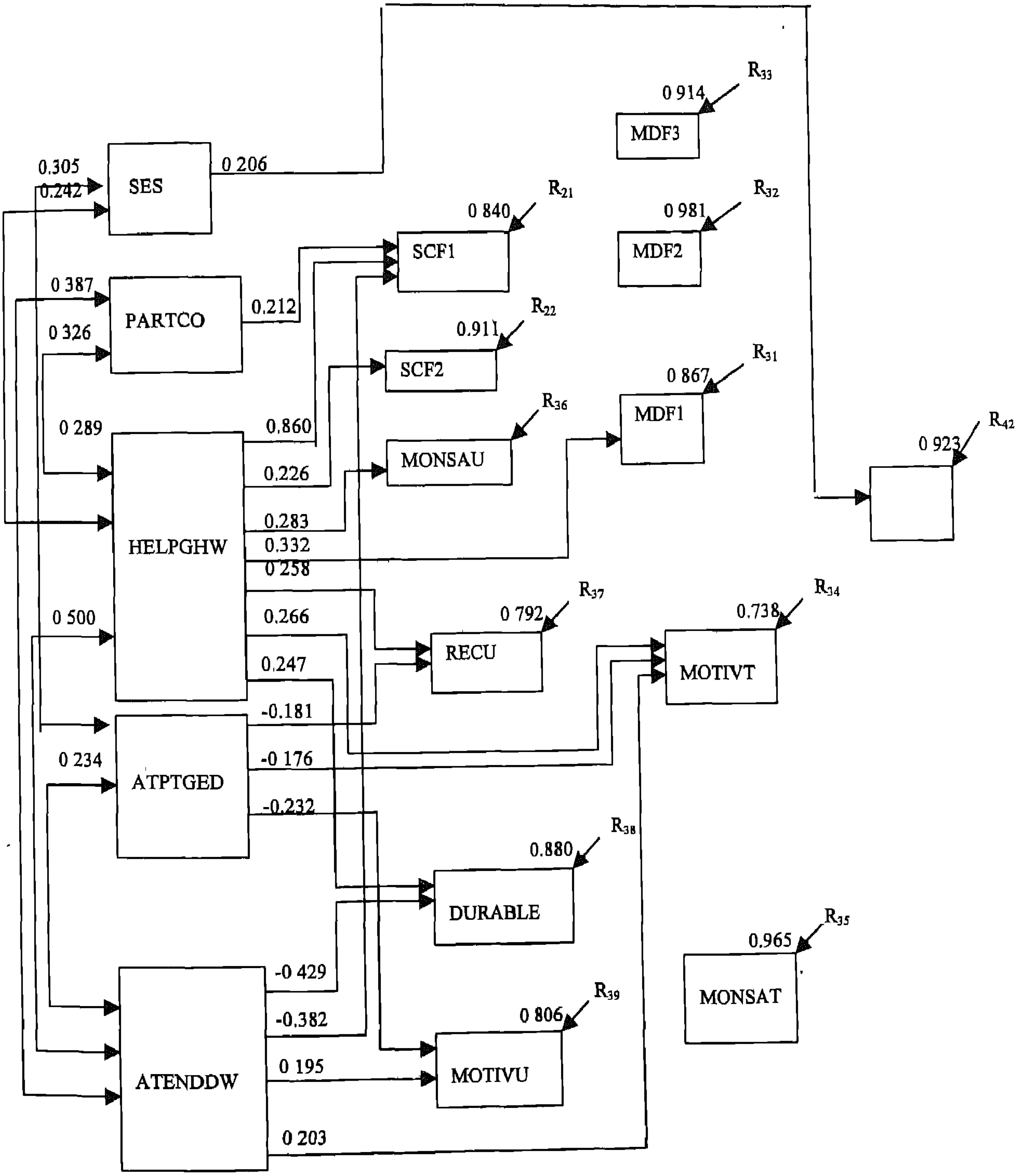


Figure 6.3 Linkages and estimated path coefficient of Explanatory variables with PGIRLENR

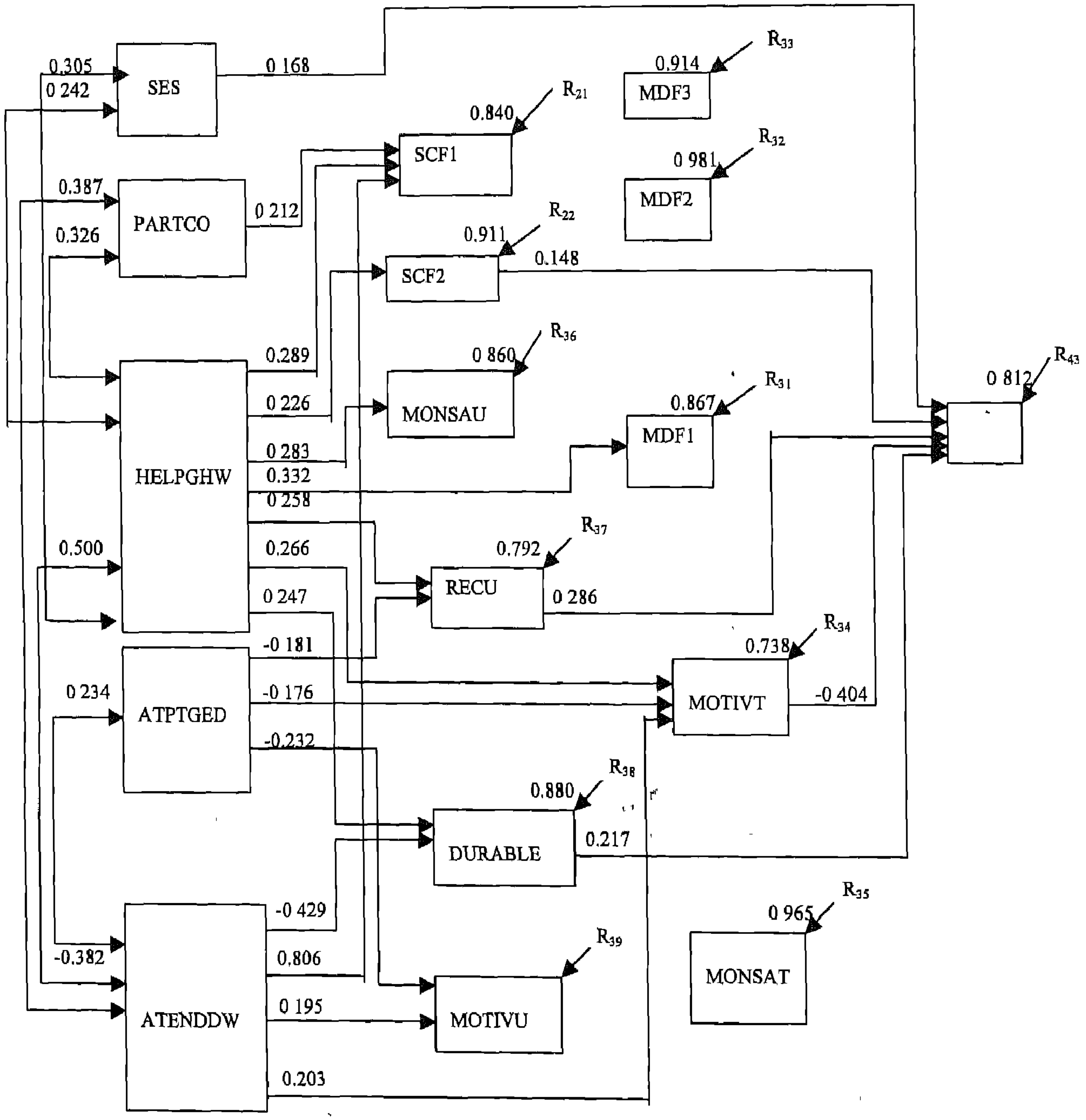
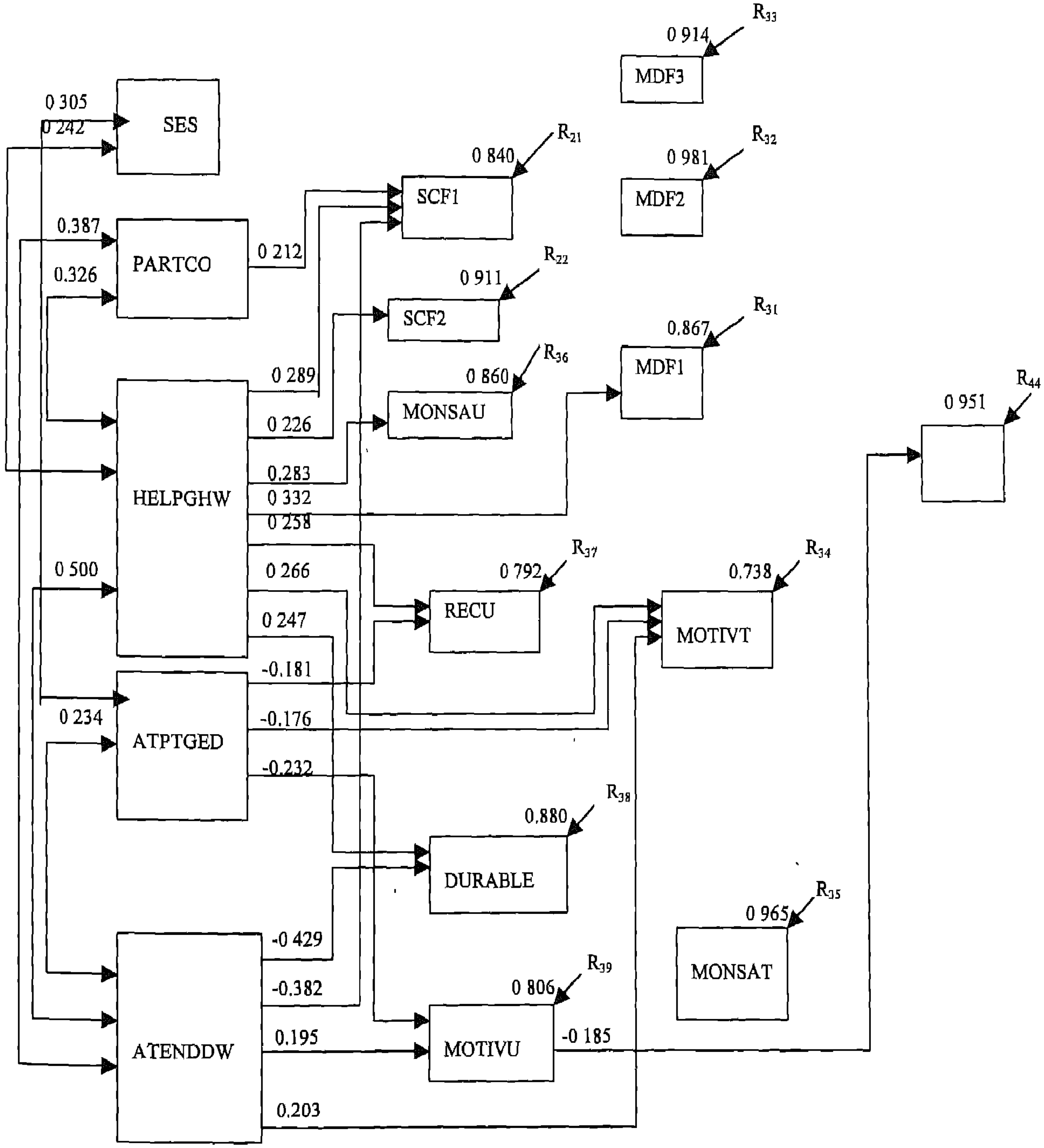


Figure 6.4 Linkages and estimated path coefficient of Explanatory variables with GENPRE



CHAPTER SEVEN

Contribution of Incentives on Girls' Participation in Uttar Pradesh

7.1.0 Introduction

7.1.1 In this Chapter, an attempt has been made to study the state policies on incentives and adherence of these policies in the implementation of these incentive schemes at school level Problems faced by schools in the implementation of these schemes and suggestions from the village heads and parents have also been reported to help improve the incentive schemes Further, the contribution of these incentives on girls' participation and retention in schools has been studied through path analysis As stated earlier, there are only two incentive schemes, namely, Mid-Day Meal and Free Text-Books, in operation in the State of Uttar Pradesh. In addition to these incentives, SC/ST and minority children are provided scholarships of Rs 300/- per student per annum by the State Department of Social Welfare without any condition of attendance

7.2.0 State Policy on Mid-Day Meal Scheme

7.2.1 The scheme of Mid-Day meal was implemented in Uttar Pradesh from 15 August, 1995 under the National Programme of Nutrition to increase enrolment and retain children in the primary classes to achieve UEE. In the first phase, this scheme was implemented in 248 EAS blocks (162 plain and 86 hills) of 38 districts. The progress of implementation of this scheme during the last four years together with number of schools, beneficiaries and total quantity of cereal distributed in different years is given in Table 7.1.

Table 7.1
Progress of Implementation of MDM Scheme in Uttar Pradesh

Year	*No of Districts*	*No of Blocks*	*No. of Schools*	*No of beneficiaries*	*Wheat (in Q)*	*Rice (in Q.)*	*Total (in Q)*
(15 8 95 to 31.10.95)	38	248	21400	2541295	79048	111548	190597
(Nov 95 to Dec. 95)	38	248	21400	2541295	63238	89238	152477
(Jan. 96 to March 96)	38	248	21400	2541295	94858	133858	228716
1996-97	66	890	76896	9909644	1927741	1045152	2972893
1997-98	66	901	82319	13129698	2472960	1465949	3938909
1998-99	83	904	87799	15261900	2913786	1664783	4578570

7.2.2 Under this scheme, every student studying in primary classes, on attending school for 20 days in a month (i e 80 per cent attendance) is to be given 3 kg cereals per month through the Fair Price Shop (FPS) for a period of 10 months in a year. A *Bal Poshahar* Card (BPC) is proposed to be prepared for every student giving details of his/her age, father's name, class and school in which studying, percentage of attendance etc On completion of the month head teacher is required to certify the attendance of each student on this card within a week's time to enable the student to get the cereals from the concerned FPS

7 2.3 To coordinate the work of this scheme, State Education Department is to work as a nodal agency. Committees are to be constituted at various levels for effective monitoring and supervision The State Level Committee is to be constituted under the chairmanship of Chief Secretary while at the regional level and the district level Committees are to be formed under the chairmanship of Regional Commissioner and the District Magistrate (DM) respectively. At the district level DM will be responsible for implementing this scheme District level committee will be responsible for bringing awareness in the public about this scheme and to make available the services of other departments such as the Child Development Department and the Health Department At the village level the scheme will be implemented through Village Education Committee (VEC) These VECs will be responsible for bringing awareness among the public about this scheme to help achieve the goal of UEE The VECs will encourage the children and bring about improvement in the environment and working system of the school The VECs will have the following composition:

1.	Head of the village (Gram Sabha)	President
2	Three guardians of students studying in elementary schools (One female nominated by Deputy Inspector of Schools)	Member
3	Head teacher of the village school (senior most, in case the village has more than one school)	Convenor

7.2 4 It was proposed to introduce the programme of cooked meal on experimental basis in some of the selected village panchayats as the government was keen to expand the scheme of cooked meal in the next two years However, this has not been done in any of the schools covered in the sample As per sampling plan given in Chapter five, data from 150 schools, 150 village heads and 1500 parents were collected. In the next section these data have been analysed from the point of view of adherence and non-adherence to state policies.

7.3.0 Implementation of State Policy on MDM at School Level

7 3.1 According to the information received from schools MDM scheme is in operation in all the schools and in more than 97 per cent of the schools criteria of 80 per cent attendance is followed. Monitoring and supervision by VEC is done in all the schools However, 55 per cent of the schools do not get any help from VECs in solving the problems in the implementation of this scheme In all the schools children are given full quantity of 3kg cereals Village heads have corroborated this fact and according to 94 per cent of them, children are supplied full quantity of 3 kg cereals. Further, 94 per cent

of the parents have reported that their children are given full quantity of 3 kg cereals. In 96 7 per cent of the schools teacher/head teacher is present at the time of distribution of cereals as confirmed by almost all the parents (93% [illegible] 95 per cent of parents have reported that the quality of cereals supplied to their children is [illegible] worthwhile to note that more than 98 per cent of the schools give advance information [illegible] regarding the date of distribution of cereals This has been reflected in the parents' responses also, as about 95 per cent of the students get this information in advance More than 95 per cent of the schools have reported that the enrolment and retention of girls have increased with the implementation of MDM scheme. Further, it has been informed by 87 3 per cent of the parents that they do get some help from this scheme in sending their daughters to school

7.3.2 As per state policy BPC was to be prepared for every student. On the completion of the month the head teacher had to certify the attendance of the student on this card within a week's time to enable him to get the cereals from the FPS However, due to non-supply of cards by the State Education Department, BPC's have been prepared in only one-fourth of the schools This fact has been reflected in parents' responses also as according to them BPC's have been made for only 26 5 per cent students Though, according to State Policy, cereals are to be given to children in each month, only 58 2 per cent of the parents have reported that their children are getting the cereals each month Schools in Faizabad and Sultanpur districts have reported that cereals have not been supplied to students from December, 1998 and even in some schools from August, 1998 or from beginning of the session 1998-99. Some schools in Ramgarh block of Nainital district have also reported that cereals for the month of February, 1999 and March, 1999 were not supplied to students till the end of April, 1999.

7.4.0 Problems Faced by Schools in Implementation of MDM Scheme

- Schools have reported untimely supply of cereals According to them cereals are not given to students on the fixed dates Sometimes the cereals are not received for months together. Further, the cereals are not received as per number of children enrolled in the school.
- Parents do not understand the criteria of 80 per cent attendance and press for supply of cereals to all the children. Even those parents, whose children are not eligible for admission to schools, demand cereals. Generally the attendance of children is higher on the day of distribution of cereals.
- Due to negligence of FPS dealers, parents desire supply of cereals through ration cards or through schools/*gram samitees* or in packets of 3 kg

7.5.0 Suggestions from Parents and Village Heads for Improvement of MDM Scheme

- Cereals need to be distributed on the fixed date in each month.
- Cereals should be distributed through Schools/*Gram Samitees* or with the ration card.
- Cereals should be supplemented with pulses and other nutritious foods
- The ration shop should not be far away.
- The quantity of cereals should be raised from 3 kg per month to 5 kg per month per student and should be for the whole year instead of 10 months.
- Free text-books/uniform should also be distributed along with this scheme to benefit the children

- The quantity of cereals given by the FPS dealer should be examined by concerned higher authorities from time to time to keep strict supervision on the FPS dealer
- Instead of cereals children should be provided cooked meal/roasted gram/fruit or any other thing to eat in the recess

7.6.0 State Policy on Free Textbooks Scheme

7.6 1 Free Textbooks Scheme was launched in Uttar Pradesh for the first time in the year 1998-99 under the District Primary Education Programme(DPEP) of World Bank. Under this scheme, textbooks are being distributed to all girl students and SC/ST boys studying in classes I to V for the first time in the year 1998 in selected 15 DPEP districts of Uttar Pradesh. The textbooks are directly supplied by publishers to the different districts through the Textbook Officer, Lucknow Two districts, viz, Moradabad and Pilibhit covered under DPEP have been selected in this study.

7.7.0 Implementation of State Policy on Free Textbooks Scheme at School Level

7.7.1 Adherence to State Policy

This scheme is in operation in all the 60 schools selected in this study from the two districts This has been reflected in the responses of village heads as more than 98 per cent of them informed that this scheme is in operation in the schools Further, more than 96 per cent of the parents have acknowledged that their daughters are getting free textbooks under this scheme and books were in good condition at the time when these were delivered. The books are distributed to students through the schools. Further, more than 85 per cent of the schools have reported that enrolment and retention of girls have increased with the implementation of free textbook scheme

7.7.2 Non-adherence to State Policy

In 40 per cent of the schools free textbooks were distributed in the month of October, 1998 in 18 per cent schools in the month of November, 1998 and in the rest of the schools in the month of December, 1998. This fact has been corroborated by the parents as their daughters were delivered the textbooks during the months of October to December, 1998. Free textbooks, as per their requirement were not received in 22 per cent of the schools. This has been confirmed by the parents also, as according to them 22 per cent of the girls did not get free textbooks as per their requirement. Only two out of the 60 schools have reported that students admitted in the mid-term are given textbooks under this scheme. About 50 per cent of the schools have admitted that some expenditure is incurred in bringing the textbook to school, which is managed by contribution from teachers in most of the schools.

7.8.0 Problems Faced by Schools in Implementation of Free Textbooks Scheme

- Textbooks were received late in the schools and hence distributed in the month of October-December, 1998
- Textbooks are not received as per the requirement of the schools.

- All students/parents, irrespective of their caste, demand free textbooks, while textbooks are received for all girls and SC/ST boys.

7.9.0 Suggestions from parents and Village Heads for Improvement of Free Textbooks Scheme

- Textbooks should be supplied in the beginning of the session to be made full use of, by the students.
- Textbooks should be given to all students, especially poor children, irrespective of their caste.
- Slates/exercise books should also be given to students along with the textbooks.
- Complete set of textbooks as per requirement of the syllabus should be provided to the students.
- Textbooks in Urdu should also be provided

7.10.0 Incentives and Girls' Participation in Education

7.10 1 As already mentioned in Chapter five, the state of Uttar Pradesh provides Mid-Day Meal programme and Free Text-books/ Instructional material at primary stage. The principal component analysis procedure has been used for reduction of number of variables pertaining to each of above mentioned schemes and school environment. The factors thus identified are indicators of some specific aspects of its respective construct or sub-construct. The variables highly correlated with each factor are given in Table 7.2. Although, factor scores for each factor, have been computed based on contribution of all the variables included in the principal component analysis.

Table 7.2
Factors and Variables Highly Correlated with Them

Construct/sub-construct	*Factor Label*	*Variable Label*	*Variable Explanation*
School Environment	SCF1	AVLAVAT	Lavatory for girls
		DPEPINT	DPEP intervention
	SCF2	PDTPRES	% of days teachers present
		PUPTCHR	Pupil-teacher ratio
	SCF3	PSCSTENR	% of SC/ST enrolled
		TATOGED	Teachers attitude towards girls
Mid-Day Meal	MDF1	EVLVCM	Evaluation by Village Committee
		HELPRVCM	Help received from Village Committee
	MDF2	MRECCEM	Cereals received each month
		MPNQNWI	Complaints entertained
Text-books	TBF1	EVLVCT	Evaluation by Village Committee
		HELPRVCT	Help received from Village Committee
	TBF2	PESNOTRT	% of eligible students not receiving books
		BENTNOTR	% of beneficiaries not attending school

7.10.2 The multiple correlation coefficients, given in Table 7.3, of the three factors of school environment with exogenous variables have indicated that only SCF1 is statistically significant at 5 per cent level. Whereas, the other two variables, namely, SCF2 and SCF3, do not provide such evidence. Therefore, possibility of indirect linkages of exogenous variables with SCF2 and SCF3 are not statistically substantiated. The linkages of each of the variables belonging to incentive construct, i.e MDF1, MDF2, TBF1 and TBF2, with exogenous and school environment variables have been found to be statistically significant at 5 per cent level

7.10.3 The multiple correlation coefficients of the four criterion variables, given in Table 7 3, with the exogenous, school environment and incentives have been found to be significant at 5 per cent level except in case of GENPRETN, i e., gender parity in retention. Discussions on direct and indirect effects of explanatory variables on the GENPRETN are, therefore, not included in this chapter.

Table 7.3
Multiple Correlation Coefficients (R) of Dependent Variables

Dependent Variable	*Value of (R)*	*Label of Significance*
SCF1	0 453	0 000
SCF2	0.268	0 057
SCF3	0.242	0.122
MDF1	0 443	0 000
MDF2	0.605	0.000
TBF1	0.497	0.000
TBF2	0 668	0.000
PGIRLATT	0 452	0.001
GIRLRETN	0.548	0 000
GIRLENR	0.566	0 000
GENPRETN	0.327	0 196

7.10.4 The variation in the variable PGIRLATT, i.e., percentage of girls present in the school on the day of investigation, accounted by the exogenous, school environment and incentive is only 20.4 per cent Path diagram in Figure 7 1 indicates direct and indirect relationship of explanatory variables with the variable PGIRLATT According to Table 7.4 the variables contributing to these factors are mostly the exogenous variables and school environment factors. School factors such as availability of lavatory facility for girls and facilities under DPEP scheme have indicated positive relationship with the girls' attendance in schools. However, variations in values of factors relating to incentives failed to explain variation in PGIRLATT.

Table 7.4

Estimated Values of Direct and Indirect Effects of Explanatory Variables on PGIRLATT

Explanatory variable	*Direct Effect*	*Indirect Effect*	*Total Effect*
ATENDDW	-	0.094	0 094
SES	-	0 070	0 070
HELPGHW	-	-0.121	-0 121
PARTCO	-	-	-
ATPTGED	-	-	-
SCF1	0.341	-	0.341
SCF2	-0 226	-	-0 226
SCF3	-	-	-
MDF1	-	-	-
MDF2	-	-	-
TBF1	-	-	-
TBF2	-	-	-

7.10.5 The linkages of the variable GIRLRETN i e. retention rate of girls in rural primary schools of Uttar Pradesh has indicated statistically significant linkage with the variables belonging to exogenous, school environment and incentive construct. Still, on an average, 70 9 per cent variation in this variable remained unexplained by the explanatory variables, as can be seen from Figure 7 2. Among the variables contributing to the variation to this variable are MDF2, TBF1 and TBF2 in addition to school environment and exogenous variables as can be seen from Table 7 5. The MDF2 variable indicates management aspects of MDM scheme, i e., receipt of cereals in each month and action taken by the authorities on complaints Increase of one standard deviation in MDF2 seems to increase, on average, 18.3 per cent of the standard deviation of the GIRLRETN. TBF1 and TBF2 have indicated negative association with the criterion variable. The increase of one standard deviation in each of these variables seems to decrease, on average, 16 9 per cent and 44.5 per cent of the standard deviation of GIRLRETN

Table 7.5
Estimated Values of Direct and Indirect Effects of Explanatory Variables on GIRLRETN

Explanatory variable	*Direct Effect*	*Indirect Effect*	*Total Effect*
ATENDDW	-	0.015	0.015
SES	-	-0.026	-0.026
HELPGHW	-	0.029	0.029
PARTCO	-	0.195	0.195
ATPTGED	-	0.044	0.044
SCF1	-	0.055	0.055
SCF2	-	-	-
SCF3	-	0.208	0.208
MDF1	-	-	-
MDF2	0.183	-	0.183
TBF1	-0.169	-	-0.169
TBF2	-0.445	-	-0.445

7.10.6 The variation in the exogenous, school environment and the incentive variables have been able to explain 32 per cent of variation in the GIRLENR i e percentage of girls enrolled. Its linkages with other independent variables are given in Figure 7.3. The Table 7.6 indicates that MDF1, MDF2 and TBF1 have direct linkage with criterion variables. Their association with it is negative. These variables tend to decrease by 24 to 30 per cent on average of their standard deviation of GIRLENR when each of these are increased by their standard deviation. In other words, percentage of boys' enrolment has positive association with MDF1 and MDF2 factors.

Table: 7.6
Estimated Values of Direct and Indirect Effects of Explanatory Variables on PGIRLENR

Explanatory variable	*Direct Effect*	*Indirect Effect*	*Total Effect*
ATENDDW	-	0.029	0.029
SES	-	0.028	0.028
HELPGHW	-0.206	0.133	-0.073
PARTCO	0.193	-0.251	-0.058
ATPTGED	-	-0.071	-0.071
SCF1	0.196	-0.089	0.107
SCF2	-	-	-
SCF3	-	0.144	0.144
MDF1	-0.244	-	-0.244
MDF2	-0.296	-	-0.296
TBF1	-0.302	-	-0.302

Figure 7.1 : Linkages and Estimated Path Coefficient of Explanatory Variables with PGIRLATT

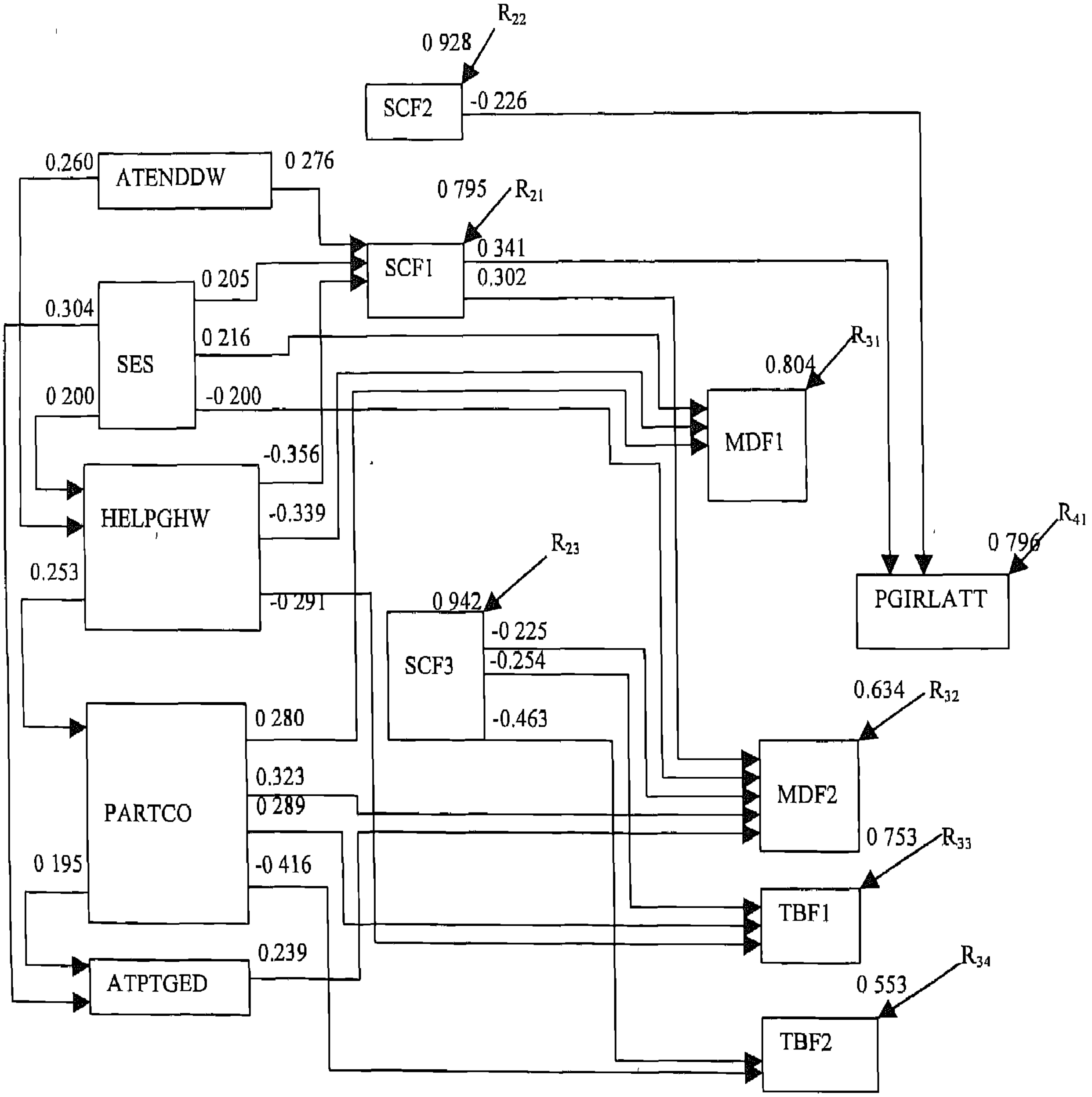


Figure 7.2 : Linkages and Estimated Path Coefficient of Explanatory Variables with GIRLRETN

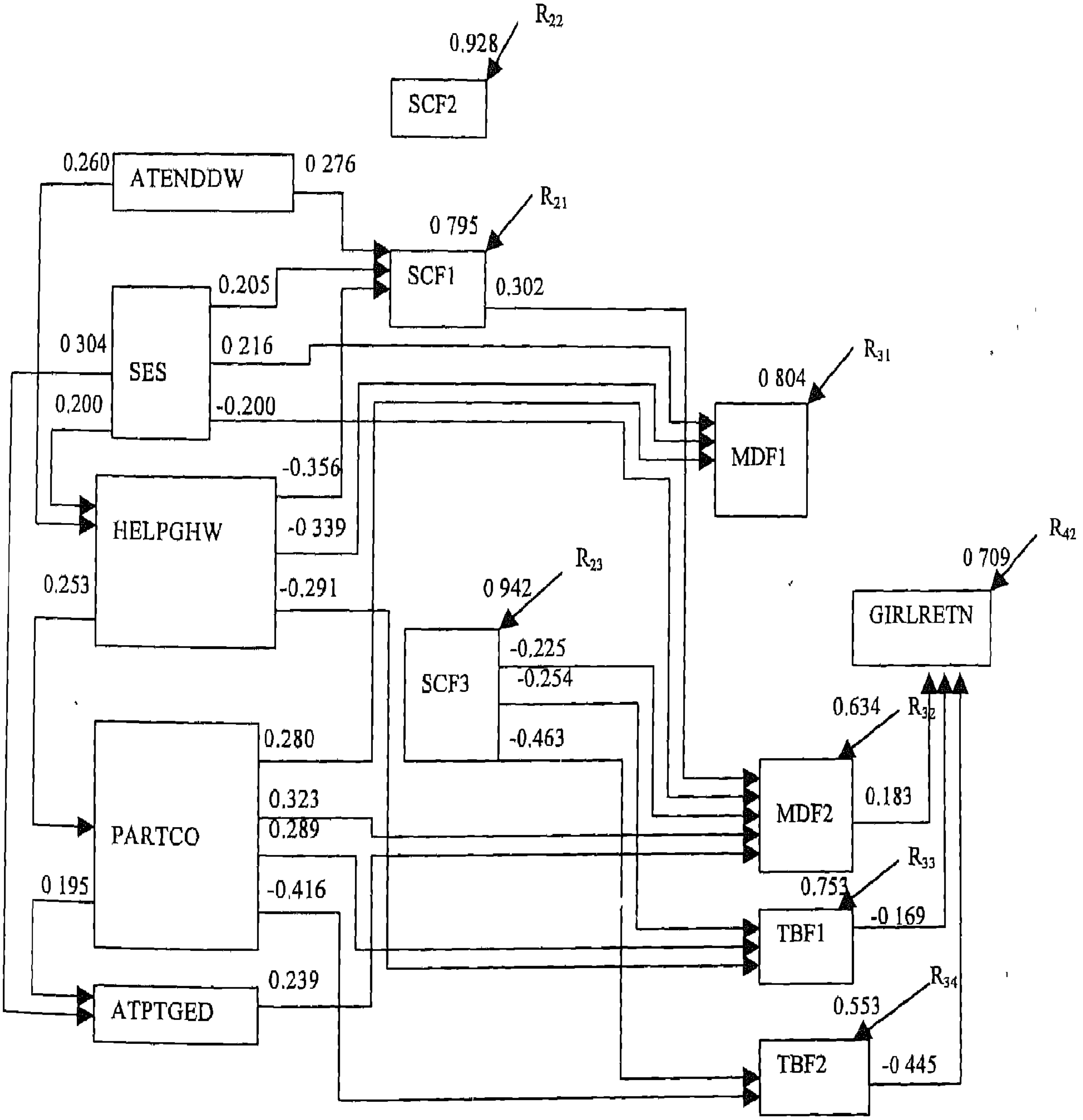
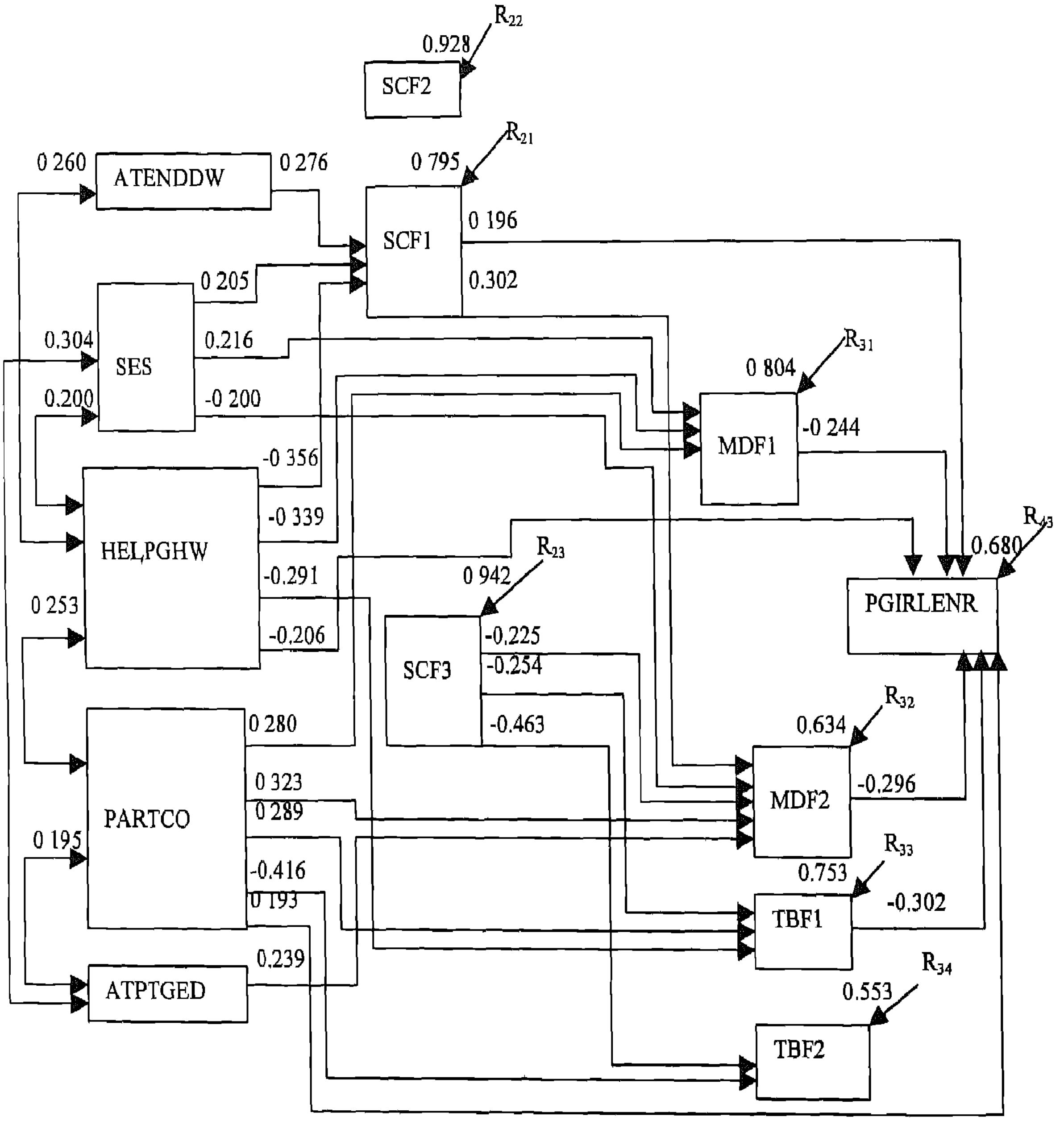


Figure 7.3 : Linkages and Estimated Path Coefficient of Explanatory Variables with PGIRLENR



CHAPTER EIGHT

Summary of Findings and Conclusions

8.1.0 Progress of Girls' Education during Post Independence Period

8.1.1 Education was at a low ebb when the country attained Independence in 1947. Girls' enrolment in primary classes as percentage of girls in the age group 6+ to 10+ was only 24.8 in 1950-51. Since then Government of India made concerted efforts to bring all the children of school-going age to school with a special emphasis on girls. A provision has been made in the Constitution through Article 45 that free and compulsory education should be provided to all children of age group 6+ to 13+. New schools were opened to extend the schooling facilities to those who had so long been deprived of them. Several incentives such as Mid-Day Meal, Free Textbooks, etc. were given to students to overcome social and economic handicaps and also to motivate parents to send children to school. Schools started organising enrolment drives and state governments initiated action on qualitative improvement of elementary education. These efforts resulted into discernible progress in girls' education at primary stage, as is evident from the following facts.

- Girls' gross- enrolment ratio (GER) at primary stage rose from 60.5 in 1970-71 to 73.5 in 1992-93.
- Dropout rate of girls at primary stage decreased from 70.9 per cent in 1970-71 to 46.7 per cent in 1992-93.
- The regional disparity in enrolment at primary stage reduced as the states like Arunachal Pradesh, Assam, Haryana, Himachal Pradesh, Madhya Pradesh, Orissa, Tripura, West Bengal and Dadra & Nagar Haveli which had initial value of girls GER below national average in 1965 attained it above the national average in 1993.
- Gender parity in enrolment, namely, percentage of girls GER to boys GER at primary stage rose from 58.57 per cent in 1965 to 81.19 per cent in 1993. This clearly shows that the gap in GER of boys and girls narrowed during the intervening period. The states/UTs achieving gender parity of more than 90 per cent at primary stage are Goa, Haryana, Himachal Pradesh, Kerala, Maharashtra, Manipur, Meghalaya, Nagaland, Punjab, Tamil Nadu, A & N Islands, Chandigarh, Daman & Diu, Delhi, Lakshadweep and Pondicherry. Bigger states like Bihar, Jammu and Kashmir, Madhya Pradesh, Rajasthan and Uttar Pradesh have gender parity below 80 per cent.

8.2.0 Review of Past Studies on Incentives

8.2.1 Review of earlier studies on incentive schemes provided variant information regarding their impact on girls' participation in education. In most of the studies it has been found that the incentives helped in increasing the enrolment of girls. But their findings differ in the case of improvement of girls' attendance. These results mainly depended on the kind of incentive in operation, social group of beneficiaries, etc For example, MDM in the form of dry food grain increased enrolment but not attendance. And it did not help in improving socialisation among the beneficiaries On the other hand, cooked meals proved to be effective not only in promoting enrolment and improving attendance of children in school but also helped in improving socialisation and removing class and caste barriers. The studies further revealed that the incentives are more beneficial to economically disadvantaged children in terms of boosting enrolment and attendance. Instances are also noticed where incentive schemes did not provide conclusive evidence with regard to increase in enrolment, attendance and reduction in dropouts It has also been found that although quality of materials in incentive programme was reasonable but due to inadequate quantity and untimeliness of delivery of incentives reduced their effectiveness. Ambivalent findings in the past studies may be because of wide variation in the policies and practices followed by the states/UTs in the implementation of incentive schemes.

8.3.0 State Policies on Mid-Day Meals

8.3.1 The MDM scheme was introduced uniformly in all the States and UTs in 1995 But some states like Goa (1967), Gujarat (1984), Tamil Nadu (1956), West Bengal (1977), Chandigarh (1980), Lakshadweep (1956) and Pondicherry (1960) had this scheme even earlier.

8 3 2 Students of Classes I-X are covered in Tamil Nadu and Pondicherry while Gujarat, Kerala, A&N Islands and Lakshadweep cover all students of classes I-VII. The remaining 26 States/UTs cover both boys and girls of primary classes only. In most of the States all the districts are covered.

8.3 3 The Department of Education is the implementing agency at the Centre, while State Governments are free to designate appropriate departments, preferably Education to be the nodal agency.

8.3.4 In most of the states foodgrains are supplied to the beneficiaries West Bengal, Chandigarh and Delhi supply fruity bread while cooked meal is served in Gujarat, Jammu & Kashmir, Kerala, Orissa, Tamil Nadu, Dadra & Nagar Haveli, Daman & Diu and Pondicherry

8.3.5 The sanctioned quantum of benefit has not been reported in rupee terms in most of the States Food grain is supplied by the Government of India at the rate of 3 kg per student, per month.

8.3 6 Although, the Union Government has envisaged strong linkages between primary education and primary health centre network, there are no linkages with the welfare programmes except in Orissa and Tamil Nadu where the scheme has been linked with Jawahar Rozgar Yojna. Kerala is the only state reporting help from Rotary Club, Lions Club and CARE in this programme.

8.3 7 On the basis of the rates applicable for the year 1995-96 cost of food grain allocated as percentage of the total expenditure on elementary education is 3.30 It ranges from 0.12 in Goa to 7.50 in Delhi

8.3.8 States/UTs have reported the following problems in the execution of the MDM programme

(i) Allocation of food grain is made in the beginning of the year on the basis of previous year's enrolment depriving newly enrolled students in the current year (Andhra Pradesh).

(ii) Poor road communication, low approved rates of transportation charges, non-payment of transportation charges, non-reconciliation of accounts (Arunachal Pradesh, Jammu & Kashmir, Kerala, Meghalya, Tripura).

(iii) Collection of information about number of beneficiaries from school level to state takes considerable time (Karnataka)

(iv) Shortage in weightage and misuse of foodgrains at the retailer level (Karnataka).

(v) Non-payment of cost of foodgrains to FCI by the Union Government, FCI refuses to sanction foodgrains during July, August and September (Karnataka).

(vi) MDM foodgrains get delayed if retailer of PDS delays advance payment of PDS foodgrains (Karnataka)

(vii) This scheme results in hindrance in the discharge of legitimate duty of teachers i e. teaching (Punjab)

8.4.0 State Policies on Free Uniforms

8.4.1 This scheme is in operation in 24 states and UTs It was introduced largely in seventies and eighties though Tripura reports its introduction as early as 1960 Andhra Pradesh, Assam, Kerala, Manipur, Nagaland, Punjab, Uttar Pradesh and Lakshadweep do not have this scheme.

8.4.2 Target Groups This incentive is targeted towards economically and socially deprived sections of the society in most of the States/UTs Further, the scheme is only for girls in Haryana, Bihar, Himachal Pradesh, Madhya Pradesh, Tripura, West Bengal and Meghalaya. In the remaining states/Uts, the scheme is meant for both boys and girls Thirteen states limit this incentive for primary classes while upper primary classes are also covered in other nine states Daman & Diu and Delhi cover students up to secondary and higher secondary classes respectively under this scheme. In Tamil Nadu this scheme covers all pupils studying in classes I-VIII who are beneficiaries under Nutritious Meal Programme This scheme is in operation in all the districts in most of the states. Exceptions are the states of Himachal Pradesh, Maharashtra and Rajasthan.

8.4 3 Three-fourths of the states/UTs operationalise the scheme through their Directorates of Education. Departments of Social Welfare implement this scheme in Bihar, Gujarat, Orissa and Tamil Nadu. Madhya Pradesh and Karnataka involve weaver societies while UT Administrations implement this programme in Dadra & Nagar Haveli and Daman & Diu

8.4.4 Cash is given to students for purchase of uniform in Haryana, Meghalaya and Tripura. Unstitched cloth is provided by Jammu & Kashmir, Karnataka, Mizoram, Chandigarh, Dadra & Nagar Haveli and Daman & Diu, while stitched uniform is provided by Goa, Gujarat, Himachal Pradesh, Madhya Pradesh, Meghalaya, Sikkim, Tamil Nadu and West Bengal. In Delhi, some selected shops are nominated for providing unstitched cloth to eligible students.

8 4 5 There is a wide variation in the quantum of benefit per student per annum. It ranges from Rs.40 in Tripura to Rs. 250/- in Bihar in case of states and from Rs 150/- in Delhi to Rs 450/- in Daman & Diu among the UTs.

8 4.6 There are no linkages with other welfare programmes except in Bihar where it is linked with welfare schemes. None of the states/UTs has reported any role played by the NGOs in this scheme.

8 4 7 Sikkim spends a substantial part (7 35%) of expenditure on elementary education on this scheme followed by Dadra & Nagar Haveli (4.39%), Daman & Diu (4 32%) and Tamil Nadu (4 15%). On the lower side come Himachal Pradesh (0 04%), Bihar (0 07%), Rajasthan (0 08%) and Madhya Pradesh and Orissa (0.10%)

8.4.8 Most of the states have not reported any problem in the implementation of the scheme except by Madhya Pradesh, Maharashtra, Meghalya and Mizoram These are given below

(i) Funds allocated for the programme are not adequate, in view of a large number of population of the backward classes.
(ii) There is a delay in fixing agencies for the supply of clothes/cloth
(iii) The rates at which funds are provided are inadequate compared to present price level.
(iv) Funds provided for this scheme get reduced from plan to plan.

8.5.0 State Policies on Free Textbooks/Notebooks

8 5 1 All the states/UTs have this programme It was introduced as far back as 1950 in Orissa and latest in Uttar Pradesh with World Bank assistance in 1998 This scheme was implemented in Tamil Nadu in 1985-86

8 5.2 Eight states have this programme for both boys and girls from all social groups while only girls are covered in Kerala and Manipur. Students belonging to SC/ST are covered in 12 states including four states, which also cover EBCs. In Tamil Nadu all pupils of classes I-VIII who are getting free noon-meals are covered under this scheme UTs cover generally backward classes only. Almost three-fourths of the states/ UTs including Tamil Nadu cover all the districts while this scheme is in operation in only 15 districts in Uttar Pradesh.

8.5.3 Department of Education implements the programme in 26 states/ UTs, while Social Welfare Department implement the programme in Orissa and Punjab. In the remaining four states/UTs the scheme is being implemented through other state/district level bodies Agencies like Textbook Publication Corporations are also involved in Assam, Bihar, Karnataka and Rajasthan and Tamil Nadu.

8.5.4 Textbooks are supplied in all the States/UTs except Manipur and Tripura, which make payment in cash. Quantum of benefit per student, per annum, varies from as low as Rs. 14 in West Bengal to Rs 443 in Mizoram.

8.5.5 Bihar and Uttar Pradesh have linked this programme with DPEP.

8.5.6 Smaller States/UTs like Sikkim (5.13%), Arunachal Pradesh (7.79%) and Lakshadweep (5.15%), spend a substantial part of their budget on elementary education on this scheme Assam (2 03%) and Punjab (2.68%) come after a big drop followed by Pondichery (1.73%), Rajasthan (1 44%), Tamil Nadu (1.42%), West Bengal (1.10%) and Dadra & Nagar Haveli (1.05%). The remaining states spend less than 1 per cent of budgeted expenditure on elementary education.

8.5.7 Only Arunachal Pradesh, Maharashtra, Meghalaya, Mizoram and Tripura reported the following problems in the implementation of the scheme.

(i) Storage Problem
(ii) Disruption in road communication
(iii) Delay in supply of textbooks and submission of accounts by the supply agencies
(iv) Inadequacy of funds which get reduced from Plan to Plan
(v) Inability to cover all the children because of shortage of funds, and
(vi) The book-grant not being at par with the actual price of the textbooks

8.6.0 State Polices on Attendance Scholarship for Girls

8.6.1 Fourteen states/UTs have this programme among which Tripura introduced it the earliest, in 1962 and Punjab is the last one to launch it in 1992

8.6.2 This incentive is targeted towards SC/ST/ EBC girls in 11 out of 14 states/UTs. The quantum of benefit per student per annum varies from as low as Rs. 20 per annum in Pondicherry to Rs 500 in Punjab.

8.6.3 Percentage of budgeted expenditure of elementary education spent on this scheme is the maximum in case of Daman & Diu (2.20%) followed by Delhi (1.10%) On the lower side are the states like Himachal Pradesh (0.01%), Gujarat (0 03%) and Assam (0.07%).

8.7.0 Socio-Economic and Educational Background of States/UTs

8.7.1 The policies adopted by the state governments in the implementation of incentive schemes would be better understood in relation to their socio-economic and educational background. The 23 state level indicators considered for the purpose have been classified into three sub-components, namely, socio-economic, financial and infrastructural inputs on education, and incentive schemes. In addition to these, gross-enrolment ratio (GER) of girls and gender parity in GER have been taken as output variables

8.7.2 On the basis of statewise information gathered on different socio-economic indicators it has been found that the states are not uniformly placed on these indicators. However, their distribution is more or less similar on some of the indicators and differs on others. The indicators like state population size, proportion of ST population, proportion of female agricultural labourers to total female workers, 95th population percentile of monthly per capita expenditure and length of surfaced roads per 10,000 sq. km area have shown lesser variation amongst states with below median values, while larger variation has been noticed amongst the states having above median values. In the case of indicator proportion of SC population, there is a lesser variation amongst 25 per cent of the states having the lowest values while the top 25 per cent states have indicated a larger variation. The distribution of states in relation to proportion of persons below poverty line is symmetrical. The variation amongst the top 25 per cent and bottom 25 per cent states is more or less of the same order.

8.7 3 These are 15 states/UTs, which individually have less than 1 per cent of the country's total population In the remaining states it ranges from 1.11 per cent in Delhi to 16 44 per cent in Uttar Pradesh As many as 13 states/UTs have the proportion of SC population close to or more than the national average of 16 48 as per 1991 census The concentration of ST population is mostly in the north -eastern states. Haryana, Jammu and Kashmir, Punjab, Chandigarh, Delhi and Pondicherry did not have ST population in them Female agricultural labourers constituted less than 10 per cent of the total female workers in 11 states/UTs In the remaining states it ranges from 10 07 per cent in Jammu & Kashmir to 60 33 per cent in Andhra Pradesh

8.7.4 The 95th population percentile of monthly per capita expenditure is the highest (Rs 1490) in Chandigarh followed by Dadra & Nagar Haveli (Rs. 1114) In the remaining states/UTs it ranges from Rs. 428 in Bihar to Rs. 960 in Delhi Amongst the remaining states/UTs., Goa, Punjab, Chandigarh, Delhi and Daman & Diu appear to be amongst the most affluent states/UTs where the percentage of population below poverty line is less than 16 Bihar appears to be the poorest state with 54.96 per cent of its population living below the poverty line. Length of surfaced roads per 10,000 sq km area is found to be longer in the states/UTs of Goa, Kerala, Punjab, Chandigarh, Dadra & Nagar Haveli and Delhi.

8.7 5 States/UTs with higher proportion of ST population have lower proportion of female agricultural labourers to total female workers while this proportion is higher in the case of states/UTs with higher proportion of SC population. The 95th population percentile of monthly per capita expenditure in rural areas is lower in highly populated states/UTs. Percentage of population below poverty line and percentage of state population to country's population are positively related but higher the state population lower is the 95th population percentile of monthly per capita expenditure in rural areas. States/UTs with longer surfaced roads per 10,000 sq. km. area have low percentage of population below poverty line

8.7.6 Expenditure on elementary education to total educational expenditure is as low as 11 17 per cent in Punjab and 11.35 per cent in Chandigarh. It is more than 60 per cent in Arunachal Pradesh, Assam, Bihar, Madhya Pradesh, Nagaland and Dadra & Nagar Haveli. There is a wide range in per capita expenditure on elementary education, which varies from Rs 458 in West Bengal to Rs 4193 in Lakhshadweep.

8 7 7 As many as 22 states/UTs have provision of primary schooling facilities within one kilometre for more than 90 per cent of their rural population. More than 90 per cent of primary schools have pucca buildings in Goa, Haryana, Punjab, Rajasthan, Daman & Diu and Lakshadweep while Manipur,

Mizoram and Nagaland have pucca buildings for less than 10 per cent of primary schools only. As regards provision of lavatory for girls in primary schools, the position is not satisfactory at all Only 10.73 per cent of primary schools have reported having this facility

8.7 8 Kerala, Nagaland, Sikkim, Tripura, Uttar Pradesh, West Bengal, Chandigarh, Daman & Diu, Delhi, Lakshadweep and Pondicherry have at least two teachers in more than 90 per cent of their primary schools. On the other extreme are Arunachal Pradesh and Dadra & Nagar Haveli where two or more teachers are available in less than 60 per cent of the primary schools The position of primary schools in Bihar is very discouraging in respect of recruitment of female teachers, as their percentage in primary schools is less than 20. The percentage of female teachers is more than 60 in Goa, Kerala, Chandigarh, Daman & Diu and Delhi. Blackboards in usable condition are available in more than 90 per cent of primary classes in Mizoram, Nagaland, Sikkim, A & N Islands, Dadra & Nagar Haveli, Daman & Diu, Delhi, Lakshadweep and Pondicherry. The state of Bihar has this facility in less than 40 per cent of primary classes

8.7 9 The proportion of enrolment at elementary stage for which the scheme of free uniform is implemented to the total enrolment at the elementary stage varies from 7 41 per cent in A&N Islands to 100 per cent in Tamil Nadu. The targeted percentage of pupils covered is more than 60 per cent in Arunanchal Pradesh, Himachal Pradesh, Jammu & Kashmir, Karnataka, Maharashtra, Sikkim, Tamil Nadu and Dadra & Nagar Haveli

8.7.10 The targeted pupil under attendance scholarship scheme as percentage to total enrolment at elementary stage is as low as 1 79 in Haryana and as high as 100 in Himachal Pradesh. Assam, Himachal Pradesh, Karnataka and Maharashtra cover more than 30 per cent of their targeted number

8.7.11 The percentage of enrolment at elementary stage that is targeted for free textbooks/notebooks ranges from 14.74 in Delhi to 100 in Assam, Manipur, Rajasthan, Sikkim and Tamil Nadu Nineteen States and Union Territories cover more than 60 per cent targeted number

8 7 12 The GER for girls in 1996-97 ranges from 48.90 per cent in Uttar Pradesh to 113 50 per cent in Gujarat. It is less than 70 per cent in Bihar, Jammu & Kashmir, Manipur and Uttar Pradesh

8 7 13 The gender parity in GER ranges from 64 65 per cent in Jammu & Kashmir to 103 36 per cent in Punjab. It is less than 80 per cent in Arunachal Pradesh, Bihar, Goa, Jammu and Kashmir, Madhya Pradesh, Manipur, Orissa, Rajasthan, Tripura, Uttar Pradesh, A&N Islands, Dadra & Nagar Haveli and Pondicherry

8.7.14 Per capita expenditure does not appear to be commensurate with population size. However, it does keep pace with the proportion of ST population but not with the proportion of SC population. Poverty inhibits private expenditure on education. However, per capita expenditure is higher in the states with higher population proportions below poverty line States with higher per capita expenditure have higher percentage of MDM beneficiaries. They are even better provided with blackboards.

8.7.15 It has been found that the girls' enrolment in primary classes is likely to increase as the availability of educational facility in rural areas increases, and the number of persons below poverty line decreases

8.8.0 Factors Contributing to Girls' Participation at the State Level

8.8.1 The path analysis of state level data has provided evidence that factors pertaining to socio-economic variables like percentage of people living below poverty line, per capita expenditure on elementary education and percentage of Scheduled Castes population are negatively associated with the girls' gross-enrolment ratio (GER) Increase in educational facility in rural areas and the number of female teachers in primary schools are likely to increase the GER of girls. Besides states serving cooked meals instead of distributing dry cereals to students under MDM programme indicated higher values of girls GER. The remaining three incentive schemes, i.e., free textbooks, free uniform and attendance scholarship for girls have also indicated positive association with the girls GER with respect to their extent of coverage, i.e , broader coverage under each scheme is likely to increase girls GER Further, percentage of beneficiaries under free textbooks scheme as well as under Mid-Day Meal programme have respectively indicated positive and negative relationship with the girls GER. The negative relationship with the girls GER may be due to the fact that more beneficiaries are covered under MDM programme in the states, which did not serve cooked meals to students.

8.8.2 The gender parity in GER has been found to be negatively related with the extent of poverty and per capita expenditure on elementary education It is positively associated with the provision of primary schooling facilities in rural areas and the proportion of female teacher in primary schools. Indicators like serving cooked meals to students and broad base under free uniform scheme have also provided evidence of their positive relationship with the gender parity index In this case also, the percentage of beneficiaries under textbooks scheme and beneficiaries under MDM programme indicated respectively, positive and negative relationship with gender parity in GER.

8.8.3 The change in gender parity over a period of four years from 1993 to 1997 is likely to increase with the decrease in number of persons below poverty line, increase in educational facilities in rural areas and widening the scope of free textbooks scheme.

8.9.0 Field Study in Tamil Nadu

8.9.1 The Noon-Meal programme is in operation in all the schools of Tamil Nadu for both boys and girls of classes I to X. The Department of Rural Development Local Authority (RDLA) has shouldered the responsibility of implementing the scheme in the state. The District Collector is the over all incharge of the scheme at district level The State Government has sanctioned 83 paise and 92 paise, per child, per day, for children of age group 5 to 9 years and 10 to 15 years respectively In Tamil Nadu noon-meal is served to students throughout the year including holidays through Noon-Meal Centres. Most of the schools in the state serve meals of satisfactory quality in sufficient quantity. The quality of meals is checked in more than 92 per cent of the schools About 95 per cent of the schools have reported that the Noon-Meal programme has helped in increasing the enrolment and retention of girls.

8 9 2 About one-third of the parents are of the view that the quality of food and its quantity may be increased Milk and fruits may also be served to students suggested one out of every six parents. Some parents suggested that the programme should be supervised more frequently by government officers.

8 9.3 As regards implementation of free textbooks scheme in Tamil Nadu 96 per cent of the schools have reportedly distributed books to students in the first month of the 1998-99 session while the remaining 4 per cent did so in the next month More than 93 per cent of the schools have received books as per school demand-schedule Monitoring and supervision of the scheme is mostly done by the AEEOs as reported by 89.3 per cent of the schools This scheme has helped in increasing enrolment and retention of girls reported by 99 3 per cent and 96 6 per cent of the schools respectively. The schools do not seem to be facing any serious problems in the implementation of the scheme. More than 75 per cent of the parents suggested that notebooks should also be provided to the students.

8.9 4 Free uniform is supplied to students every year reported by 97 1 per cent of the schools. More than 93 per cent schools received the supply as per demand Nearly two-thirds of the schools distributed free uniform during the first two months of the 1998-99 session About 95 per cent of the schools have reported that monitoring and supervision of the scheme is done by the BDOs

8.9 5 About 15 per cent of the schools have complained that the free uniform is not properly stitched. There is no arrangement for supply of two sets of uniform and quality of cloth is not good. Some of the parents and village heads also expressed similar views

8.9.6 The scheme of free uniform appears to have direct positive effect on the girls' attendance in primary schools. It has also been observed that the help provided to girls by their parents in their home assignments is also likely to increase girls' attendance

8 9.7 Only socio-economic status of parents of the girls studying in classes I-V is found to be associated with the retention of girls in primary schools Incentive schemes did not show evidence of having any discernible impact on the girls' retention rate

8.9 8 The data revealed that the percentage of girls' enrolment would increase with the increase in the number of days on which teachers remain present in the schools and parents devote time to help their daughter in doing home assignments. Socio-economic status of parents would also contribute in the increase of girls' enrolment. The scheme of free uniform has also indicated positive association with the enrolment of girls

8 9 9 The gender parity in retention rate at the primary stage is positively associated with the attitude of parents towards girls' education. It is negatively associated with the variable 'girls attending the domestic work' and 'free uniform scheme' motivates parents in sending their daughters to school. In other words gender parity in retention rate is likely to increase as the girls start spending lesser time in domestic activities so that they could utilise that time in their studies and parents have increasingly positive attitude towards girls' education.

8.10.0 Field Study in Uttar Pradesh

8.10 1 The scheme of Mid-day Meal is introduced in all the selected primary schools in Uttar Pradesh. Attendance criterion of 80 per cent is being followed in more than 97 per cent of the schools Monitoring and supervision of the scheme in all the schools is done by the Village Education Committees (VECs) However, 55 per cent of the schools have reported that they do not get any help from VEC's in solving the problems in the implementation of the scheme. All schools have claimed that they supply to every student full quota of 3 kg cereals This has been confirmed by 94 per cent of the parents. About 95 per cent of the parents have reported that the quality of cereals supplied to their children is good More than 95 per cent parents felt that the scheme has helped in increasing the enrolment and retention of girls. This scheme has also helped in sending their daughters to schools reported 87.3 per cent of the parents. Slightly more than 58 per cent of the parents have reported that their children received cereals every month. It may be mentioned that the schools in Faizabad and Sultanpur districts have reportedly not distributed cereals to students for five to ten months during 1998-99 session. In some schools of Nainital district also, food grain was not supplied to students for the months of February and March 1999. To improve the MDM programme some parents and village heads suggested that the cereals should be distributed through schools/*gram samitees* or with the ration-card on some fixed date each month Pulses and other nutritious food should be provided along with cereals The quantity of cereals should be increased and provided for vacations also. Cooked meals should be served to students instead of supplying dry cereals, reported some of them

8.10 2 Free textbooks scheme has been launched in the state for the first time in the year 1998-99 in 15 districts under DPEP programme. This scheme is in operation in all the 60 schools selected for this study from the two DPEP districts. More than 96 per cent of the parents have reported that their daughters have received free textbooks and they were in good condition. More than 85 per cent of the schools have reported that enrolment and retention of girls have increased with the implementation of this scheme All the schools have reported a delay of 3 to 5 months in the distribution of free textbooks to students, this being the first year of operation of the scheme Free textbooks have not been received as per demand in 22 per cent of the schools.

8 10.3 Parents and village heads have suggested that the textbooks should be supplied in the beginning of the session Textbooks should be given to all students, especially to poor children irrespective of their caste Slates/exercise books should also be given along with the textbooks.

8.10.4 The variation in the variable percentage of girls present in the school on the day of investigation accounted by the home background, school environment and incentives is only 20.4 per cent School factors like availability of lavatory facility for girls and facilities under DPEP scheme are positively associated with girls' attendance in the school.

8.10.5 Retention rate of girls in rural primary schools of Uttar Pradesh has indicated positive association with the attitude of teachers towards girls' education, supply of cereals in each month and prompt action taken by the authorities on complaints lodged by the parents regarding distribution of cereals

8.10 6 32 per cent of the variation in the percentage of girls enrolled in rural primary schools has been explained by the socio-economic, home background, school environment and incentive variables

Glossary

1. Adi Dravidyar	A backward caste in Tamil Nadu
2. Balposhahar	Mid-day meal/school lunch for children
3. Basic Shiksha Adhikari	Education Officer for Elementary Education at District level in the state of Uttar Pradesh
4 Block	Administrative unit below district level known as Community Development Block or Simple Block
5 Hamalies	Porters, Coolies
6. Mandal	Administrative unit below the district level in the state of Andhra Pradesh such as CD Block or a Tehsil in other parts of the country.
7 Mushahar	A backward caste, general/scheduled caste, in Bihar.
8. Nagar Palikas	Municipality (Town or district that has local government, the governing body of such an area) Concise Oxford Dictionary, Tenth Edition, Indian Edition (1999), Oxford University Press, New Delhi.
9 Panchayat	(I) A body of representative of people (ii) A democratic system of local self government run by the representatives of people at village and district level. (iii) A Village Council (council consisting of five members) Concise Oxford Dictionary, Tenth Edition, Indian Edition (1999), Oxford University Press, New Delhi.
10. Panchayati Raj	System of governance through Panchayats
11. Poshahar	Mid-day meal, school lunch
12 Zilla Parishad	Council of people's representatives for running administration and governance at the district (Zilla) level (Zilla-an administrative district in India). Concise Oxford Dictionary, Tenth Edition, Indian Edition (1999), Oxford University Press, New Delhi.

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Appendix I

Sub-component-wise values of State indicators

Sub-component: **Socio -Economic**

Sl No	*Variable*	*Mean*	*SD*	*CV*
1	POPN	3.13	4.03	128.75
2	SCPOP	11.29	8.54	75.64
3	STPOP	23.06	31.44	136.34
4	FAG_LAB	24.14	20.06	83.10
5	MONTHEXP	677.92	213.97	31.56
6	POVERTY	31.47	11.18	35.53
7	SURFROAD	12390.20	33739.68	272.31

Sub-component. **Financial and infrastructure inputs on education**

Sl.No	*Variable*	*Mean*	*SD*	*CV*
1	PCTEXP	49.16	12.51	25.45
2	PCAPEXP	1576.48	812.32	51.53
3	EDFACIL	92.53	6.34	6.85
4	BUILDING	58.03	31.24	53.83
5	LAVATORY	10.73	14.21	132.43
6	TCHR	82.06	13.91	16.95
7	FETCHR	40.02	17.06	42.63
8	BLACKB	75.94	17.00	22.39

Sub-component: **Incentive schemes**

Sl No	*Variable*	*Mean*	*SD*	*CV*
1	MEALMODE	0.31	0.47	151.61
2	TARGET_U	30.17	29.56	97.98
3	TARGET_T	62.85	28.15	44.79
4	TARGET_A	14.67	25.20	171.78
5	BENF_M	29.93	37.48	125.23
6	BENF_U	16.04	23.24	144.89
7	BENF_T	32.00	31.89	99.66
8	BENF_A	6.48	9.87	152.31

Sub-component: **Criterion**

Sl No.	*Variable*	*Mean*	*SD*	*CV*
1	GER_G97	85.22	15.54	18.24
2	GPAR_97	83.46	10.91	13.07

Appendix II

Correlation Matrix of Socio-Economic and Educational Variables

VARABILE	POPN	SCPOP	STPOP	FAG-LAB	MONTHEXP	POVERTY	SURFROAD	PCTEXP	PCAPEXP	EDFACIL	BUILDING	LAVATORY	TCHR
POPN	1.000												
SCPOP	0.479	1.000											
STPOP	-0.383	-0.669	1.000										
FAG-LAB	0.677	0.460	-0.422	1.000									
MONTHEXP	-0.453	-0.056	0.113	-0.536	1.000								
POVERTY	0.322	-0.094	0.210	0.366	0.480	1.000							
SURFROAD	-0.151	0.225	-0.223	-0.273	0.693	-0.449	1.000						
PCTEXP	0.118	-0.376	0.456	0.048	0.391	0.717	-0.609	1.000					
PCAPEXP	-0.617	-0.693	0.599	-0.651	0.332	-0.088	-0.040	0.200	1.000				
EDFACIL	0.185	0.125	-0.138	0.370	0.054	-0.394	0.124	-0.406	-0.225	1.000			
BUILDING	0.286	0.267	-0.387	0.288	0.260	-0.321	0.106	-0.352	-0.189	0.459	1.000		
LAVATORY	-0.260	0.025	-0.216	-0.205	0.392	-0.425	0.536	-0.525	0.093	0.248	0.299	1.000	
TCHR	-0.094	0.166	-0.223	-0.153	0.148	-0.363	0.333	-0.450	0.209	0.246	0.025	0.512	1.000
FETCHR	-0.358	0.038	-0.260	-0.275	0.687	-0.711	0.631	-0.673	0.068	0.280	0.318	0.609	0.413
BLACKS	-0.415	-0.360	0.234	-0.448	0.352	-0.406	0.161	-0.230	0.460	0.214	0.152	0.571	0.368
MEALMODE	-0.040	0.189	-0.202	0.163	0.199	-0.197	0.393	-0.391	0.010	0.315	0.166	0.328	0.344
TARGET-U	0.019	-0.045	-0.052	0.207	0.091	0.291	-0.088	0.086	-0.106	-0.086	0.002	-0.165	-0.334
TARGET -T	0.324	-0.106	0.019	0.160	0.464	0.263	-0.421	0.457	0.054	-0.510	0.110	-0.520	-0.183
TARGET-A	-0.042	0.308	-0.237	-0.016	0.009	-0.120	0.032	-0.097	-0.126	-0.178	0.046	-0.033	-0.043
BENF-M	-0.492	-0.365	0.196	-0.312	0.410	0.045	0.176	-0.080	0.594	-0.290	0.072	0.367	0.192
BENF-U	-0.269	-0.116	0.117	0.040	0.180	0.252	-0.058	0.058	0.013	-0.201	0.078	0.244	-0.358
BENF-T	-0.469	-0.317	0.180	-0.291	0.245	0.052	0.068	-0.099	0.441	-0.248	0.085	0.313	0.080
BENF-A	-0.246	0.195	-0.292	0.029	0.269	-0.326	0.225	-0.435	-0.070	0.234	0.239	0.388	0.292
GER-G97	-0.130	-0.165	0.165	0.067	0.119	-0.075	-0.122	0.040	0.057	0.181	0.091	-0.040	0.068
GPAR-97	-0.031	0.220	-0.162	0.144	0.092	-0.400	0.066	-0.288	-0.141	0.334	0.148	-0.014	0.230

(Contd .)

Appendix II (Contd.)

Correlation Matrix of Socio-Economic and Educational Variables

	FETCHR	BLACKB	MEALMODE	TARGET-U	TARGET-T	TARGET-A	BENF-M	BENF-U	BENF-T	BENF-A	GER-G97	GPAR-97
FETCHR	1.000											
BLACKB	0.438	1.000										
MEALMODE	- 0.285	0.211	1.000									
TARGET-U	-0.368	-0.005	0.063	1.000								
TARGET-T	-0.545	-0.234	-0.029	0.102	1.000							
TARGET-A	0.079	-0.214	-0.213	0.212	-0.023	1.000						
BENF-M	0.152	0.350	0.131	0.183	-0.158	-0.120	1.000					
BENF-U	-0.029	0.116	0.038	0.402	-0.237	-0.038	0.542	1.000				
BENF-T	0.010	0.383	0.107	0.245	-0.083	-0.194	0.880	0.546	1.000			
BENF-A	0.403	0.016	0.031	0.070	-0.497	0.081	0.301	0.308	0.132	1.000		
GER-G97	0.051	0.208	0.028	0.297	0.225	0.223	0.059	-0.071	0.125	0.114	1.000	
GPAR-97	0.344	0.168	0.090	0.048	0.077	0.181	-0.148	-0.252	-0.067	0.024	0.738	1.000

Appendix III

Indicators used in District level Quantitative Analysis

Sl No	*Label*	*Indicator Description*	*Codes*	*Recode*	*Procedure adopted in construction of indicator*
I	**Socio-Economic**	**Background of Family**			
1	EDLF	Educational level of Father	Illiterate = 1 Literate = 2 Primary = 3 Secondary = 4 Hr /Sr. Sec = 5 Graduate = 6 Post-graduate and above = 7	–	Logit transformation, average on the school and then standardised
2	EDLM	Educational level of Mother	----do----	–	-----do-----
3	OCCUPG	Occupation of Father/Guardian	Unskilled worker=1 Poultry farming =2 Picking forestry produce = 3 Agri. Labourer = 4 Farmer = 5 Skilled worker = 6 Vendor = 7 Self-employed = 8 Domestic servant=9 Household = 10 Clerk = 11 Employer =12 Senior officer = 13 Any other = 14	1=1 2=2 3=3 4=4 5=5 6=6 7=7 8=9 9=10 10=11 11=12 12=13 13=14 14=8	
4	SES	Socio-economic Status of parents	-	-	Average of EDLF, EDLM and OCCUPG and then standardised
5	ATPTGED	Attitude of parents towards girls education	Primary = 1 Upper Primary = 2 Secondary = 3 Graduate = 4 Post graduate = 5 Any other = 6	-	Logit transformation, average on the schools and then standardized
6	HELPGHW	Parents helping the daughter in homework	Yes = 1 No = 2	Yes(1)=1 No(2) = 0	Average on the school and then standardised
7.	ATENDDW	Girls attending to domestic work	Yes = 1 No = 2	Yes(1)=1 No(2) = 0	-do-
8	PARTCO	Girls participating in co-curricular activities	----do----	---do---	-do-

Appendix III

Sl No	Label	Indicator Description	Codes	Recode	Procedure adopted in construction of indicator
II	**SCHOOLS'**	**ENVIRONMENT VARIABLES**			
1	PSECHBB	% of sections having blackboards	-	-	Standardised
2	PSTUHFMF	% of students having mats/furniture facility	-	-	Standardised
3	AVLAVAT	Availability of lavatory for girls in school and its cleaning	(X) Daily = 1 Twice or Thrice in a week = 2 Once in a week = 3 Not even once in a week = 4 Without Lavatory =5	5-X	Logit transformation standardized
4	MEDICHK	Provision of medical check-up in school	Yes = 1 No = 2	Yes(1) = 1 No(2) = 0	Standardised
5	OBSCHEME	OB Scheme	-do-	-do-	-do-
6	DPEPINT	DPEP Intervention in school	-do-	-do-	Number of ones ranging between 0-7 logit Transformation standardised
7	PWOMENT	% of female teachers	-	-	Standardised
8	MULTIGT	% of teachers teaching more than o classes simultaneously	-	-	Standardised
9	TEACHAID	Teaching aids used by the teachers	Yes = 1 No = 2	Yes(1) = 1 No(2) = 0	Number of ones ranging between 0-6 logit Transformation standardised
10	TEACHSUP	Supervision of teaching in the school	Yes = 1 No = 2	Yes(1) = 1 No(2) = 0	Numbering of ones ranging between 0-4 Logit Transformation Standardised
11	PSCSTENR	% of SC/ST enrolled	-	-	Standardised
12	PUPTCHR	Pupil-teacher ratio	-	-	Standardised
13	COMPARTI	Participation of village Committee in school activities	Yes = 1 No = 2	Yes(1) = 1 No(2) = 0	Number of ones ranging between 0-7 logit transformation standardised
14.	PDTPRES	% of days teachers were present in the school	-	-	Standardised
15	TATOGED	Teachers attitude towards girls education	Agreed =1 Disagreed = 3 Neither agree nor disagree = 2	Agreed=3 Neither agree nor disagree=2 Disagree=3	Logit Transformation standardised

Appendix III

Sl No	*Label*	*Indicator Description*	*Codes*	*Recode*	*Procedure adopted in construction of indicator*
16.	BEHAVTD	Behaviour of teachers towards girls	(X) Very good = 1 Good = 2 Not good = 3	4-X	Logit Transformation average on the school and then standardised
17	INTGED	Interests of teachers in the education of girls	Yes = 1 No = 2	Yes(1) = 1 No(2) = 0	Average on the school and then standardised
18	PUNCTALT	Punctuality of teachers	-do-	-do-	-do-
III	**MID-DAY MEAL/NOON-MEAL VARIABLES**				
1	PGBENM	% of girls beneficiaries to total girls enrolled	-	-	Standardised
2.	EVLVCM	Monitoring and evaluation of MDM/Noon Meal by Village Committee	Never = 0 Once = 1 Twice = 2 Thrice = 3 More than three= 4	-	Logit transformation standardised
3	HELPRVCM	Help received from village committees in solving the problems of MDM scheme	Yes = 1 No = 2	Yes(1) = 1 No(2) = 0	Standardised
4	MONSAM	Monitoring and Supervision of MDM by authorities	-do-	-do-	Number of ones ranging from 0-3 logit transformation standardised
5.	NMCENTER**	Location of Non-Meal Centre	Yes = 1 No = 2	No No = 0 No Yes=1 Yes Yes =2 Yes No=3	Logit transformation standardised
6	NMSERVE**	Serving on Noon-Meal to students	Yes = 1 No = 2	Yes(1) = 1 No(2) = 0	Standardised
7	NMSTAFF**	Availability of staff in NM Centres	-do-	-do-	No of ones ranging between 0-3 Logit transformation standardised
8	UTENSIL**	Provision of cooking utensils in NM Centres	Yes = 1 No = 2	Yes(1) = 1 No(2) = 0	Standardised
9	NMSER**	Serving of meals in	Disposable material = 1 Plates brought by the students = 2 Plates provided by the school = 3	2=1 3=2 1=3	Logit transformation standardised
10	SUPMDIST**	Supervision of distribution of the meal	Yes = 1 No = 2	Yes(1) = 1 No(2) = 0	No of ones ranging between 0-4 Logit transformation standardised

Appendix III

Sl Sl No	*Label*	*Indicator Description*	*Codes*	*Recode*	*Procedure adopted in construction of indicator*
11	NMQUAL**	Checking of quality of the meal	-do-	-do-	-do-
12.	MNQLTY**	Quality of NM satisfactory	Yes = 1 No = 2	Yes(1) = 1 No(2) = 0	Standardised
13	COMPLODG**	Complaint lodged with authorities about unsatisfactory quality of the meal	Yes = 1 No = 2	Yes(1) = 1 No(2) = 0	No of ones ranging Between 0-3 Logit transformation standardised
14	ACTNTIME**	Action taken by authorities within reasonable time	Yes = 1 No = 2	Yes(1) = 1 No(2) = 0	Standardised
15	RECNM**	Receiving cooked-meal under noon-meal scheme	Yes = 1 No = 2	Yes(1) = 1 No (2)= 0	Average on the school And then standardised
16	APPRNM**	Daughter appreciate Meals provided to her	Yes=1 No= 2	Yes(1) = 1 No(20 = 0	Average on the school And then standardised
17	MOTIVNM**	NM motivated you in sending yours daughter to schools	Yes = 1 No = 2	Yes(1) = 1 No(2) = 0	Average on the school and then standardised
18	PRTNMDST**	Participation in preparation/distribution of meal	Yes = 1 No = 2	Yes(1) = 1 No(2) = 0	No of ones ranging Between 0-4 Logit transformation standardised
19	QUALC**	Quality of cereals	(X) Very good =1 Good =2 Uncleaned =3 Spoiled =4	5-X	Logit transformation average on the school and then standardised
20	MRECCEM**	Cereals received in each month	Yes =2 No = 2	Yes(1) = 1 No (1)= 0	Average on the school And then standardised
21	MPNQNWI*	Previous month's less quality is given next month/quality of cereals is improved on complaint with teacher/village head	Yes = 1 No = 2	Yes yes=3 Yes No=2 No Yes=3 No No=1	Logit transformation average on the school and then standardised
22	YEARLMDM*	Years of launching MDM Scheme	(X) 1995=1 1996=2 1997=3 1998=4	5-X	Logit transformation and then standardised
23	RSINV*	Rationing shop available in the village	Yes = 1 No = 2	Yes(1) = 1 No(2) = 0	Standardised
24	VHPATCD*	Village head present at the time of distribution of cereals	Yes = 1 No = 2	Yes(1) = 1 No(2) = 0	Standardised
25	HCWARNM*	Village heads make complaints with the SDI/Supply Inspectors and these complaints removed in next month	Yes = 1 No = 2	Yes Yes=3 Yes No=2 No No =1	Logit transformation standardised

Appendix III

Sl No.	*Label*	*Indicator Description*	*Codes*	*Recode*	*Procedure adopted in construction of indicator*
IV	**FREE TEXTBOOKS VARIABLES**				
1	PGBENT	% of girl- beneficiaries of total girls		-	Standardised
2	PES NOTRT	% of eligible students not getting required textbooks	-	-	-do-
3	EVLVCT	Evaluation of free textbook scheme by Village Committee	Yes = 1 No = 2	Yes(1) = 1 No(2) = 0	-do-
4	HELPRVCT	Help received from Village Committee in solving the problem of free textbooks scheme	Yes = 1 No = 2	Yes(1) = 1 No(2) = 0	-do-
5	MONSAT	Monitoring and Supervision of free textbook scheme by Authorities	-do-	-do-	Number of ones ranging from 0-3 Logit Transformation standardised
6.	BENTNOTR	% of beneficiaries of the free textbooks scheme who are not attending the school regularly or who have left the schools	-	-	Standardised
7	FTRACCD	Free textbooks received in the schools as per demand	Yes = 1 No = 2	Yes(1) = 1 No (2)= 0	Standardised
8	RECT**	Receiving free textbooks during the session 1998-99	Yes = 1 No = 2	Yes(1) = 1 No(2) = 0	Average on the school and then standardised
9	CONTFORT**	Contribution in terms of money for getting free textbooks during 1998-99	Yes = 1 No = 2	Yes(1) = 1 No(2) = 0	Average eon the school and then standardised
10	MOTIVT**	Free textbooks scheme motivates the parents in sending daughters to school	Yes = 1 No = 2	Yes(1) = 1 No(2) = 0	Average on the school And then standardised
11	AWARE**	Awareness of parents about incentive scheme	Yes = 1 No = 2	Yes (1)= 1 No(2) = 0	Average on the school And then standardised
V	**FREE UNIFORMS VARIABLES**				
1	PGBENU**	% of girls beneficiaries of total girls	-	-	Standardised
2.	PESNOTRU**	% of students not getting free uniform	-	-	-do-

Appendix III

Sl No	*Label*	*Indicator Description*	*Codes*	*Recode*	*Procedure adopted in construction of indicator*
3	MONSAU	Monitoring and supervision of free uniform scheme by authorities	Yes = 1 No = 2	Yes(1) = 1 No(2) = 0	No of ones ranging Between 0-3, logit Transformation and then standardised
4	DELAYU	Delay in getting Uniform	Number of months it was given late from beginning of the session June		Logit transformation standardized
5	RECU	Girls receiving uniform during 1998-99	Yes = 1 No= 2	Yes(1)=1 No(2)=0	Average on the school And then standardized
6.	UNSIST	Whether uniform stitched satisfactorily	-do-	-do-	-do-
7.	DURABLE	Whether uniform lasts up to end of the session	-do-	-do-	-do-
8	CONTU	Money contributed in getting free uniform	-do-	-do-	-do-
9	MOTIVU	Free uniform motivated parents in sending their daughters to school	-do-	-do-	-do-
VI	**CRITERION VARIABLES**				
1	PGIRLENR	% of girls in primary schools	-	-	Standardised
2	PGIRLATT	% of girls attendance on the day of investigation	-	-	-do-
3	GIRLRETN	Girls retention rate in primary schools	-	-	-do-
4.	GENPRETN	Gender parity in retention Rate	-	-	-do-